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LECTURES.

LECTURES ON INTRACRANIAL SURGERY.

III—REMOVAL OF THE GASSERIAN GANGLION.

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Tic douloureux (prosopalgia, epileptiform neuralgia or Fothergill's neuralgia) usually is due to some disease of the trigeminal nerve in front of the ganglion of Gasser—frequently a low grade of neuritis, sometimes an atrophic process dependent upon an obliterative endarteritis of the vessels supplying the nerves. Occasionally the disease may be traced to trouble in the alveolus, when it can be easily remedied; but commonly no local cause can be discovered, internal medication proves useless and life becomes a burden to the sufferer. Under such circumstances, removal of the ganglion is justifiable.

Three methods of reaching the ganglion have been proposed:

1. Opening the middle fossa through the temporal region;

2. Ablation of the superior maxilla and trephining the base of the skull;

3. Entering the cranium through the pterygoid region.

Before discussing these methods it is well to recall the anatomic relations of the ganglion. The fifth or trifacial nerve arises by two roots: a small anterior or motor nerve for the muscles of mastication and a large posterior root which constitutes the great sensory nerve of the face, giving origin to the ophthalmic and superior maxillary nerves (both nerves of sensation only), and supplying the inferior maxillary with its sensory fibers; these two roots do not join immediately after leaving the pons Varolii, but pass side by side, forward to an oval opening in the dura on the upper border of the petrous bone and thence between the bone and dura to the apex of the petrous where is formed the semilunar or Gasserian ganglion upon the sensory root, the motor fibers passing beneath the ganglion to join the third (inferior maxillary) division just outside the skull. In its passage under the ganglion this motor root is accompanied by the superficial petrosal nerve. The ganglion itself is intimately adherent upon its upper surface to the dura, which is here divided into two layers to cover the ganglion; and hence is difficult of removal. From its anterior border there proceed:

1. The ophthalmic division which continues forward along the outer wall of the cavernous sinus, making its exit through the sphenoidal fissure as three distinct nerves to supply the orbit and upper part of the face; just after leaving the ganglion it receives its communicating filaments from the cavernous plexus of the sympathetic—a most important surgical point, as otherwise there would be inevitable destruction of the eyeball after removal or destruction of the ganglion.

2. The superior maxillary division which passes out of the cranium through the foramen rotundum to be distributed to the middle portion of the face in numerous branches.

3. From the lower angle the sensory part of the inferior maxillary which leaves the cranium by the foramen ovale and joins the motor root; immediately afterward it divides into two large trunks (anterior and posterior) the various divisions of which give sensation to the lower part of the face and the mouth; the posterior or larger trunk gives rise to the auriculo-temporal, the lingual and the inferior dental—the latter especially of interest, as it must be the guide to the foramen ovale—hence it must be remembered as lying beneath the external pterygoid in its upper relations, but later between the internal lateral ligament and the ramus of the jaw, finally entering the dental foramen.

It may thus be seen that the ganglion lies in an almost inaccessible location, surrounded by vital structures and contiguous to the great vessels at the base of the brain. What is the best route to follow?

Victor Horsley practiced the first mentioned method in a case that died seven hours after operation, presumably from shock. He opened the skull in the temporal region, low down; incised the dura and lifted up the tempero-sphenoidal lobe so as to see the base of the skull in the middle fossa, illumination being secured by means of a small incandescent light; he then cut the root of the nerve near where it emerged from the pons, followed it through the dura and removed the ganglion from above. From a number of experiments upon the cadaver I am convinced that this is an operation of great difficulty as well as severity. Unless a large portion of bone be removed it is impossible to reach the root of the nerve behind the ganglion, or even the ganglion itself. In every attempt made there was so much compression of the brain in exposing the point of attack that I believed much harm might result in the living subject—at least in hands less skilled than Mr. Horsley's. And it appears to me that there is great danger of hemorrhage from the contiguous sinus or artery; to which point I will refer later.

The second method has been followed by Mr. Rose, of London, with success in one case. But while by excision of the superior maxilla upon one side the foramen ovale may be quite readily reached, the disk of bone removed and the ganglion destroyed, the mutilation is too great to justify the procedure provided any other route can be utilized.

The third plan—known as the Rose operation—has proved, experimentally, to be decidedly the best. And the results in actual work have thus far been entirely satisfactory. Rose of London, Andrews of Chicago, myself, Park of Buffalo, and Parkhill of

Denver have, in the order named, operated successfully; and lately a number of other operators have recorded brilliant results, bringing the cases up to the neighborhood of twenty with only one failure.

In this operation two things must be especially remembered: the ganglion lying just above and external to the internal carotid artery, by the slipping of an instrument fatal hemorrhage may occur; an assistant should therefore stand ready to tie the common carotid upon the same side in case of accident while the operator prevents bleeding by gauze pressure. Second, since division of the fifth nerve (or its branches) *just in front of the ganglion* is said to give rise to destruction of the parts supplied by it and subsequent death, the ganglion must be totally extirpated without traction from the front, or the nerve must be cut *behind* the ganglion.

THE ROSE OPERATION.

The instruments required are: one scalpel of medium size; two scissors, one large, one small; half inch trephine with a long handle; one periosteal elevator; Hey's saw; bone drill and silver wire; dissecting forceps; one small curette (Volkmann's sharp spoon); two hooks to catch the nerve-blunt; one Liston bone forceps; twelve hemostatics. All should be metal so as to permit boiling. Last: needles and sterilized catgut.

After the usual preparation by bath, catharsis, etc., the head and face are carefully shaved; the parts thoroughly scrubbed with soap and water, dried and washed with sulphuric ether. The eye upon the affected side is irrigated with bichlorid solution, 1 to 3000, and the lids stitched together with fine catgut; the ear is cleansed and packed with a little gauze. At this point the hands of the operator and his two assistants must be again thoroughly scrubbed, the nails cleaned, and sterilization effected by washing the hands and forearms in saturated solution of potassium permanganate until a deep brown, decolorizing with strong solution of oxalic acid and final rinsing in sublimate solution 1 to 1000. The field of operation is again washed with antiseptic soap and water and then with the bichlorid solution; and the surrounding parts covered with towels wrung out of hot bichlorid solution.

Beginning just below the outer angular process of the frontal bone, an incision is made along the upper border of the zygoma to its posterior extremity, and curving sharply downward, descends just in front of the ear and over the parotid to the angle of the jaw, thence along the horizontal ramus to the vicinity of the facial vessels. This flap of skin is dissected up, care being taken not to injure Steno's duct and the facial nerve. By making the incision in this manner there is gained a maximum of space with a minimum of disfigurement and no paralysis of the portio dura. A long silk ligature is passed through the flap and held by an assistant, the retracted flap being wrapped in bichlorid gauze for protection. The periosteum is now stripped from the zygoma and four holes drilled through the bone; two through the zygomatic process of the malar, and two close to the root of the zygoma; these drill holes should be about one-third of an inch apart and are to provide passage for silver wires to hold the parts in place after trephining. With the Hey's saw the zygoma is divided between the holes at either end, the anterior saw cut being directed obliquely downward and forward, the posterior one as far back as possible. The bone is turned down with the masseter muscle attached, care being taken not to injure the muscular attachment on the inner surface, as future nutrition of the bone must for a time come through the muscle. The coronoid process of the inferior maxilla being thus exposed it may be cut away with the Liston bone forceps or the saw; the bone removed should be thrown away after separating from the temporal muscle, as no attempt is made to restore it to its position because atrophy and cicatricial contraction would interfere with movements of mastication. The temporal muscle is now turned up out of the way, exposing the pterygoids. The external pterygoid muscle is separated from the skull by the periosteal elevator and drawn downward. Search is made for the third division of the fifth nerve (the inferior maxillary) as it is the guide to the foramen ovale through which it makes its exit. When this can not be found dependence must be placed upon the bony landmarks; an assistant wholly unconnected with the operation should be at hand with a skull which can be carefully observed and corresponding points located upon the patient. It should be remembered that the foramen ovale lies about one-fourth of an inch anterior to and the same distance internal to the foramen spinosum through which passes the middle meningeal artery, and a little more than a half inch behind and a trifle external to the foramen rotundum; so that any of these foramina is a guide to the others; further, the fossa for the ganglion lies about five-sixteenths of an inch internal to and slightly behind the foramen ovale, the carotid canal being the same distance from the foramen, directly toward the median line.

The situation of the foramen ovale having been determined, a half inch trephine with a long handle is introduced with the center-pin a little behind and external to the foramen. When the disk of bone is removed the hemorrhage must be checked by pressure for a moment, and the cavity cleaned from all blood, when the dura can be cut with scissors. A small incandescent light is now almost indispensable; by its aid a part of the ganglion can be seen. A small blunt hook is introduced, the nerve caught just where it *enters* the ganglion and strong traction made; when well in the opening it may be divided with small scissors and the ganglion torn out with dissecting forceps or a small curette. Hemorrhage is now quite severe but must not agitate the operator; it can be controlled by pressure or the application of a bichlorid gauze compress wrung from water of a temperature of 120 degrees. Bleeding having been arrested the wound is irrigated with hot sterilized water (or carbolic solution 1 to 40), the temporal muscle is tucked into the fossa and the zygoma replaced and wired. As no drainage can be employed the wound is now made as dry as possible, iodoform dusted in very freely, the incision rapidly closed with a continuous catgut suture, the face washed, the wound hidden in iodoform and much sublimate gauze applied. The head and affected side of the face must be covered with several layers of bichlorid gauze (1 to 2000), enveloped in cotton and bandaged tightly.

The most strict attention to even the minutest detail of asepsis is necessary at every step of the operation. There must be no break in the chain of ideal surgical cleanliness, regardless of any exciting incident which may arise.

Both eyes must be bandaged for four days and the

one on the affected side for two weeks. The catgut stitch in the lids is removed at the completion of the operation.

AFTER TREATMENT.

When put in bed the usual methods to combat shock must be instituted. Whenever much restlessness appears with the reaction, the hypodermatic injection of morphin (gr. .02) is indicated. Absolute quiet must be enjoined and vomiting prevented if possible. After the subsidence of nausea—probably in twenty-four to thirty-six hours—a liquid diet should be ordered and kept up for at least two weeks, at the end of which time articles easily masticated may be substituted.

About the sixth day the patient may be allowed to sit up, and on the twelfth or fourteenth to go about the house.

If (as is frequently the case) the subject has acquired the morphin habit it is best to stop the drug at the time of operation; surprisingly little discomfort will result, the disappearance of the pain giving partial relief from the craving. The hypodermatic injection of .005 doses of strychnin, three or four times daily, for a few days will greatly lessen the desire for the drug.

CASES.

That removal of the ganglion of Gasser does give permanent relief from the terrible pain is proved by the following case:

James S., of Chanute, Kan., age 54, came to me for examination in March, 1892. The family history and previous health were good; he was of strong constitution and non-syphilitic. Eighteen years ago he began to have paroxysms of pain in the right side of his face; the pain was thought to be neuralgic, and one by one all his teeth were extracted; morphin was used for the pain but gave no relief even in doses of a grain and was finally discontinued. During the two years preceding examination the local spasms had increased in frequency and severity until existence seemed unbearable and the patient had contemplated suicide to end his misery. All the coal-tar derivatives and other anodynes had been tried in vain. His appetite had been poor for some months, and as attempts at chewing caused recurrence of pain, he had for a long time been confined to his bed, principally on account of weakness. He was admitted to All Saints Hospital, of Kansas City, March 18, 1892. At that time the following entry was made: "Status præsens—Patient pale and anemic: emaciated; lines of pain upon face; heart, lungs and abdominal organs normal; no disease of ear, eye, nose or throat; no trouble in antrum (examination by electric light in mouth) nor alveolus to account for pain; while talking paroxysms came on—typical trigeminal tic Put to bed and ordered forced feeding and

℞ Quininæ hydrobromat 1.5
Ferri sulphat. exsiccat . . . . . 1.
Hyoscyaminæ sulphat 01
" Misce et ft. capsul No. XVI. Sig.: One every four hours."

There was no improvement under this, so far as concerned pain, but the general condition was slightly better on March 28. On March 29 I made Rose's operation, being assisted by Drs. J. D. Griffith and J. F. Binnie, of Kansas City. The third division of the nerve could not be found on cutting away the pterygoids, so the location of the foramen ovale was determined by comparison with the dry skull. The trephine was applied a little too far behind the foramen so that it cut into the foramen spinosum, wounding the middle meningeal artery; the bleeding was very severe for a moment, and it seemed as if the carotid would have to be tied, as has been advised for such an accident, but by persistence the vessel was secured; no further difficulty was experienced except that the patient seemed ready to die from a combination of weakness, anesthetic and shock; so the operation was hurried and completed in fifty-five minutes. An ideal convalescence followed. The shock was easily overcome; the temperature rose to 100.5 degrees on the day following operation, but rapidly declined—pure surgical fever; freedom from pain was complete; there was little nausea, and the appetite speedily improved. There was a gain of ten pounds in weight in two weeks. The wound healed by primary union. He was discharged from the hospital April 12, 1892.

Here was a typical case for operation. And the result has justified the apparent severity of the remedy. For nearly three years have now passed since the operation, and there has been no return of the pain. The severe conjunctivitis which followed and which at one time I feared might destroy the eye finally disappeared, though for several months the eye had to be protected. Considerable difficulty in mastication was at first experienced from the stiffness of the jaw and from accumulation of food upon the insensitive side of the mouth, but the man finally learned to overcome this and at the present time has no trouble whatever.

Was the ganglion destroyed in this case, or was the good result due simply to cutting the nerve outside the skull? Senn and others have insisted that it is impossible to remove the ganglion by this route and that the benefits arise simply from division of the second and third branches of the fifth nerve during the attempts at removal. Whether it is taken away in its entirety or only partially destroyed, or whether it is not even touched during this operation, are questions of more theoretical than practical interest, so long as the results are as satisfactory as in this case: relief from pain which renders life a burden. But that cure depends not upon section of the nerve instead of removal of the ganglion is certainly to be inferred from comparison of the history just given with that of the following case:

Mrs. Jacob M., of Hope, Kan., I saw in consultation with Dr. J. N. Ketchersid on July 21, 1893, at her home. She was 48 years of age. Her general health and family history good. For four or five years there has been persistent severe neuralgia of unknown cause, which affected the third division of the fifth nerve. Several sections had given temporary relief—the last being of the nerve just as it enters the dental canal. For the past six weeks prior to my first visit almost intolerable pain had continued, morphin, etc., affording little relief. For five days she had not tasted food as every movement caused a return of the paroxysmal agonizing pain. With the assistance of Drs. Ketchersid and Miles, I began the Rose operation, but upon reaching the point of trephining the base of the skull my courage failed, for the operation was in a private house and the light not good. I therefore simply cut the nerve at its exit from the foramen and removed much of it, completing the operation in the usual manner. July 22 she was resting nicely without pain, and had slept all night for the first time in many months. July 25, Dr. K. wrote: "Patient's temperature this morning normal, pulse 85. She is doing well and gaining rapidly in strength." Convalescence was satisfactory in every detail. For a little more than one year there was complete relief from pain, but at the end of that time little twinges began to be noticed and these have gradually increased in severity until recently the paroxysms have assumed great intensity and the doctor has been in correspondence with me about removing the ganglion from above.

Dr. Frank Hartley, of New York, has described a modification of Horsley's operation, the steps consisting in reflecting the tissues (including the bone) over the temple, the base of the initial curved incision being over the zygoma and the flap reflected downward; the dura is gently pushed away from the bone by means of a spatula until the foramen rotundum and foramen ovale are exposed, without opening the dura except where it divides to inclose the ganglion. The nerve is then cut behind the ganglion and the latter torn from its depression with dissecting forceps from above. Theoretically and experimentally upon the cadaver this operation is a good one, and Dr. McLane Tiffany of Baltimore has operated successfully four times with good results; but I have the

same objections as to the Horsley method: too much brain compression and danger of hemorrhage. That these objections are not based upon visionary reasons is proved by the following case:

Mrs. W., 65 years of age, married, was operated on Oct. 23, 1893, by Dr. J. D. Griffith, of Kansas City, assisted by Dr. J. F. Binnie and myself. All went well until the attempt to raise the dura to expose the ganglion. Serious symptoms: depressed heart's action and irregular respiration then arose—necessitating repeated interruptions. Finally the petrous bone was well uncovered, but the bleeding was so excessive by the time the region of the ganglion was reached as to compel cessation of operation and the application of gauze pressure. After repeated efforts we were compelled to desist, tamponing the wound with iodoform gauze to prevent death from hemorrhage. Four days later the wound was unpacked and a second unsuccessful attempt made to remove the ganglion, during which the dura was penetrated. Again recourse to the gauze tampon was necessary to save life temporarily. The patient died three days later as a result of meningitis.

Now Dr. Griffith is one of the most careful surgeons in this country and I am sure no other operator could have accomplished what he failed to do in this particular case; and I feel equally certain that had the Rose method been adopted the ending might have been more favorable.

As a result of observation, therefore, as well as experimentation, I am compelled to say that the Rose operation for removal of the Gasserian ganglion appears to me to be the one easiest of execution and safest in practice.

ORIGINAL ARTICLES.

A REPORT OF FOUR ILLUSTRATIVE ABDOMINAL SECTIONS.

Read by title before the Southern Surgical and Gynecological Association, November, 1894.

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Clinical reports possess a peculiar value to practitioners of medicine as attesting the absolute results of treatment. The four cases here reported illustrate as many distinct and separate conditions of disease, in which none other than radical surgical treatment can avail. These cases occurred in my practice during one week; the four operations having been performed within six days. In all the cases the indications for operation were absolute and urgent; they passed into easy convalescence without untoward symptoms of any kind, and have made complete and perfect recovery. In Case 4 the operation was followed by pronounced shock, from which the patient rallied in a few hours. All are now in the enjoyment of perfect health three months after operation.

The object of this report is to illustrate the indications for operation in grave conditions of disease formerly imperfectly understood, and to demonstrate the safety of operative treatment, promptly and thoroughly applied. The profession has been slow to accept the practical truth that the risk of operating in such cases as I will report is incomparably less than that of temporizing by treating symptoms. Among the increased risks to life from delay, the feeble condition of the patient and the complications resulting from rapid tissue changes demand recognition. For convenience I will report the cases in reverse order, beginning with the last case of the group:

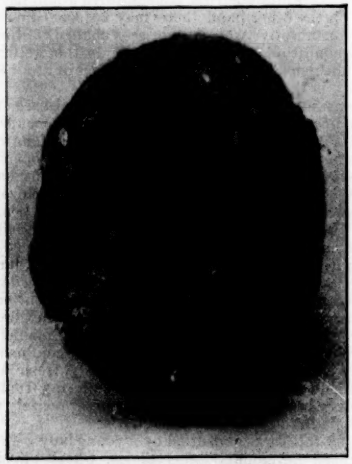
Case 1.—Extra-Uterine Pregnancy; Rupture, Hemorrhage and Shock. Mrs. D., aged 25, on the evening of September 23, while undressing to retire, was attacked by sudden pain in the left iliac region. It did not last long and was relieved by rest and warm applications. This lady had been married six years, and about two years since suffered a miscarriage with considerable hemorrhage; since that time she had complained of pelvic pain and menstrual irregularity. At the time mentioned she had missed two menstrual periods. On the Wednesday night following she was attacked with violent pain in the same region, much more violent than before, and was given a full dose of morphia hypodermically which gave her some relief. On the following morning she got up to empty the bladder and while doing so fainted, became deathly pale and cold and was seized with nausea and vomiting. The pain was intense and for several hours she exhibited the symptoms of profound shock and internal hemorrhage—pallor, bloodless lips, surface cold, and pulse rapid, small and feeble. Under the influence of stimulants freely administered, hot applications to extremities, mustard to epigastrium, and atropia hypodermically, she gradually rallied late in the afternoon. On the following day her abdomen was swollen and tympanitic, and very sensitive to the touch. Three days afterward she passed a perfect cast of the uterine cavity. Her pulse ranged about 120, and she had an evening temperature of 101.

This description of her symptoms is a literal extract from a letter written me at the time by her father, himself an experienced practitioner of medicine. Three days later her father wrote that her symptoms were materially improved. The pulse had fallen to about 100, the temperature had come down to normal and her condition was better in every respect. Still the abdomen was considerably swollen and quite tender in the left iliac region. There was a slight bloody flow from the uterus. These symptoms it will be observed, correspond with the shutting off of the area of rupture and hemorrhage from the general peritoneum, with arrest of bleeding temporarily by blood clot. On Thursday, October 11, she was transported in a carriage to the railroad station, placed in a sleeping car, and brought to the Jennie Casseday Infirmary for Women in Louisville. She bore the journey well, and reached the infirmary without aggravation of symptoms. She was accompanied by her father and husband, both of whom are physicians. An examination of the pelvis demonstrated that the cavity was choked with effusion. The uterus was pushed to the right, and Douglas' pouch and the left lateral space packed.

Saturday morning, October 13, I opened the abdomen and found the pelvic peritoneum filled with blood clot, which was breaking down; peritonitis was active and progressive. After removing two or three pints of blood clot, I brought up into the incision the left uterine appendage, and tied it off close to the uterus. The point where the tube ruptured is very plainly seen. An examination of the uterine appendage on the opposite side demonstrated the existence of chronic salpingitis with adhesions and occlusion of the tube, evidently the result of long standing chronic inflammation. It was removed. The peritoneal cavity was flushed with several gallons of warm distilled water, a drainage tube placed, the incision closed, and the patient returned to bed. Her convalescence was uninterrupted. Her pulse remained under 100; she suffered no pain; the abdomen remained flat; the bowels were moved on the third day in response to an enema; the drainage ceased by the third day; the tube was removed, and convalescence was established without any interruption whatever. She returned home quite well at the end of the fourth week. Drs. Coleman Rogers, Mandeville Thum, and Robert Stuart were present at the operation.

Case 2.—Chole-Lithiasis; Impaction of Cystic Duct; Cholecystotomy. Mrs. B., of Uniontown, Ky., was brought to me by Dr. Norman, a well-known physician of that place, on Wednesday, Oct. 10, 1894. She is 52 years of age, of vigorous constitution, and until three years ago enjoyed uniformly good health. For three years past she has suffered with frequent violent paroxysms of abdominal pain, only imperfectly relieved by large doses of opiates. Her digestion was impaired, she was several times jaundiced, and for several months past her suffering was almost constant. She had been treated by different physicians for various supposed conditions of disease. Dr. Norman some months ago detected a globular tumor in the right hypochondrium which had enlarged steadily. An examination of the tumor gave conclusive evidence that it was an enlarged gall bladder, and with associated history justified a diagnosis of gall stones, most probably impacted in the cystic or common duct.

Thursday morning, October 11, the day after the patient's arrival at the infirmary, I did cholecystotomy. A vertical incision about three and a half inches long was made immediately over the tumor; firm adhesions were encountered all about the distended gall bladder. These were carefully separated and the gall bladder brought up into the incision. A flat sponge was packed underneath so as to protect the



peritoneum and the gall bladder instead. The gall bladder was filled by a perfectly clear fluid, a mucoid secretion characterizing this form of biliary obstruction. After emptying this, my finger detected a large stone firmly impacted deep in the cystic duct. I experienced considerable difficulty in removing it. It is well known that the walls of the gall bladder and its ducts are thin and friable, and hence the utmost delicacy of manipulation must be observed when the duct is stretched by an impacted stone. It is very easy to push it through the thin tissue of the duct. Various forceps have been invented for the removal of stones under these circumstances, some with padded blades for crushing the stone from the outside of the duct. With two fingers introduced within the abdomen and the index finger of the other hand within the gall bladder, I succeeded in dislodging this large stone without injury to the duct, and removed it. The further steps of the operation consisted in sewing the incised gall bladder to the parietal peritoneum of the incision, introducing a rubber tube into the gall bladder, and closing the incision, (except at the central point where the tube was placed) in the usual manner. In this way the gall bladder is drained through the abdominal wall, Before the operation was concluded bile began pouring out through the gall bladder. The patient's convalescence was smooth and uninterrupted, being entirely afebrile and requiring no opium or other anodyne. The tube remained in the gall bladder until the discharge ceased and the bile followed the normal channel. The opening closed altogether during the fifth week. The patient was entirely and immediately relieved of pain and is now quite restored to vigorous health.

Case 3.—Suppurative Salpingitis and Peritonitis.—L. J., age 25, referred by Dr. P. F. Barbour, had suffered for several months from pelvic inflammation. The history and symptoms leave no doubt as to the infection being due to gonorrhea. For seven weeks prior to admission to the infirmary she was very ill with peritonitis. The abdomen was tender and tympanitic, pulse rapid and temperature ranging from 101 to 104 degrees F. The suppurative stage was marked by rigors and profuse sweating. Pain was paroxysmal and so severe that morphia was daily and freely used.

An examination revealed the characteristic symptoms of suppurative salpingitis and pelvic peritonitis. After free purgation, abdominal section was done October 9. The pelvic viscera were matted down with adhesive exudate, which being separated allowed pus to flow out of the incision. The Fallopian tubes were distended with pus, the left having ruptured. The tubes were glued to the ovary on each side and both ovaries had been converted into abscess sacs. The specimens illustrate the extreme ravages of specific suppurative salpingitis and ovaritis. After thorough enucleation the rotten appendages were tied off close to the uterus. The peritoneum was flushed freely with warm water, a glass drainage tube placed, and the incision closed. The progress of the case was uninterrupted, and convalescence was prompt. Neither morphia or other opiates were given during convalescence. At the expiration of the third week the patient went to the country and writes that she is quite well. Drs. Barbour and Rogers, of this city, and Drs. Stuart and Dunn of Henderson, were present at the operation.

Case 4.—Post-puerperal Pelvic Inflammation, with Suppuration.—Age of patient 21 years; confined July 26, 1894, and during convalescence developed peritonitis. After an acute illness of several weeks, during which time she exhibited the symptoms of puerperal peritonitis, the inflammatory process seemed to abate and her condition was hopeful. During the latter part of August her condition was complicated by abscess of the breast, which required incision and gave much distress, at the same time adding to the exhaustion of an already enfeebled condition. I saw the patient in the latter part of September in consultation with the family physician, Dr. Coleman Rogers. For several weeks preceding the condition was one of seeming improvement with recurrent attacks of violent pain necessitating repeated doses of morphin, accompanied with fever and sweats. These exacerbations undoubtedly marked the invasion of additional areas of peritoneum by the inflammatory process. Dr. Rogers had utilized purgatives, as well as all other non-surgical resources in the treatment, and requested a consultation with a view to operative interference. An examination disclosed the most extreme and advanced lesions of post-puerperal pelvic inflammation. The uterus was bound down upon the floor of the pelvis, the fundus in Douglas' pouch, and the rectum almost occluded by its pressure. All the pelvic viscera were fixed, being bound by extensive deposits of organized exudate. There was an indistinct sense of fluctuation in the lateral pelvic spaces when the bimanual touch was applied. The patient was pale, feeble and emacia-

ted, racked with daily exacerbations of pain and constant fever.

On Oct. 6, 1894, during the eleventh week of illness, the patient was removed to the infirmary and on the following morning abdominal section was made. Ether was very cautiously given, and the operation performed as quickly as thorough and careful work would permit. On opening the abdomen (suprapubic) the omentum was found agglutinated to the intestines, roofing in the pelvic viscera. Releasing this and working a track of cleavage with two fingers through the coils of intestines the pus freely poured out of the incision. In separating the adhesions at the floor of the pelvis, and enucleating the disintegrated tubes and ovaries (applying only gentle force cautiously), my index finger penetrated the uterus. Recognizing this, I forcibly released that organ (observing the utmost care not to open the rectum to which it was adherent), and brought it up with the suppurating appendages. The body of the uterus was friable, breaking down under slight force; the appendages were mere abscess sacs. Having separated adhesions so as to release the intestines, I threw a small wire attached to Kœberle's nœud around the cervix uteri, and removed the uterus and appendages. The peritoneum was thoroughly douched with several gallons of warm water, a drainage tube placed, and the incision rapidly closed. The operation was completed in thirty-two minutes. Dr. Guest, the anesthetist, had already administered stimulants hypodermically. The patient was put to bed without any pulse that we could detect in the wrist, though the heart was acting with great rapidity. The usual stimulants subcutaneously, with dry heat to the surface and extremities, were persistently applied, and the patient gradually rallied. The pulse was rapid and small for three days, then gradually improved. The drainage tube was removed on third day, the nœud came away on the eleventh day, and healing was prompt and complete. The patient rapidly gained strength and flesh, and is now a perfect picture of health. Dr. Coleman Rogers and Dr. T. P. Satterwhite were present at the operation.

THE OPEN AIR TREATMENT OF CONSUMPTIVES WHO CAN NOT SEEK CHANGE OF CLIMATE.

Read at the meeting of the "Tri-State" Medical Society at St. Louis, April 2, 1895.

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The importance of climatotherapy in the treatment of consumption was recognized even by the ancients. As long ago as the time of Hippocrates and his immediate successors it was held that consumptives should be removed to a distance from the locality in which they had contracted their disease. From that day to this, physicians have been in the habit of ordering change of climate for their phthisical patients in the belief that in a judicious and early employment of climatotherapy lies the consumptive's best hope of recovery. Much thought and investigation have been given to the determination of those qualities of climate to which its remedial virtues may be attributed. These would seem to be dryness, high altitude, equability and purity. Yet that dryness and high elevation are not fundamental requirements for all cases, is shown by the fact that some patients do well in sea stations such as the Island of Madeira. Equability of temperature can not always be relied on at resorts of greatest repute, such as those of mountain climates. The one quality common to all well known and justly celebrated resorts is purity of the atmosphere, and when combined with dryness and low atmospheric pressure, of mountain resorts, we have those qualities most conducive to recovery from pulmonary tuberculosis. Nevertheless, some patients recover who never seek a high altitude; others, who never leave home. And those who seek the most favorable climate possible receive little or no benefit unless they remain out of doors a large proportion of the time. Furthermore, Dettweiler, from his Sanitarium at Falkenstein, Germany, reports from 24.5 to 27 per cent. of recoveries of patients in all stages. And yet his institution is located in the cool, damp, changeable climate of Germany in the Rhine country. Similar results are achieved at Bremer's Sanitarium in the equally unfavorable climate of Görbersdorf, North Germany. Surely then, there must be something more than mere removal to a favorable climate if the consumptive would recover, and on the other hand there may be some hope for the consumptive who can not seek change of climate. This condition upon which depends the welfare of the phthisical patient, whether at home or at a health resort, is life in the open air.

Consumption may be said to be the disease of indoor life. Its victims are those forced by occupation or circumstances to spend their days within four walls. It rarely attacks persons who work in the open air, unless their health be undermined by vicious habits or conditions of environment that antagonize the beneficial effect of their outdoor life. While penning the foregoing sentences I was consulted by a lady of tubercular family history, who had developed pulmonary disease within a few weeks previous, largely I believe in consequence of having exchanged residence in South Dakota with much time spent out of doors, for the opposite conditions of life in Chicago. Such facts are so numerous as to point unmistakably to the disastrous consequences of indoor confinement. Why then should this, Nature's remedy, fresh air, be withheld from individuals already suffering from pulmonary tuberculosis? And yet this is precisely what is done in only too many instances.

Last fall I was consulted by a young lady with pronounced pulmonary tuberculosis, whose physician had warned her against going out doors, lest she should take cold. It is not at all uncommon to find the consumptive in an advanced stage with all the phenomena of sepsis, lying in an overheated, ill-ventilated apartment from which he is never moved.

Therefore I desire to lay down two following propositions: 1, a consumptive who can not seek change of climate should pass his days in the open air, no matter what the stage of his disease; 2, under proper precautions this may be done in all weathers, excepting the severe cold of winter, when the thermometer registers below 15 degrees above zero.

And now I propose to devote the remainder of this paper to the description of how and why this should be done.

In the summer of 1893 it was my good fortune to be able to visit Dettweiler's famous Sanitarium at Falkenstein, where the open air treatment of consumptives is carried out in its perfection and with truly brilliant

results. The institution is situated at the altitude of about one thousand three hundred and fifty feet above the sea, and is protected from cold northerly winds by the low Taurus Mountains, among which it lies. It is constructed around three sides of a square, so that its galleries face the southeast, and obtain all the sunshine possible. In these open galleries, protected from the elements only by canvas curtains, the patients spend the entire day from eight to ten hours, reclining in easy chairs or on couches and covered by sufficient rugs to withstand the cold. This open air treatment is so generally employed, that according to Dettweiler's figures all but $8\frac{1}{2}$ to $9\frac{1}{2}$ per cent. of the patients were submitted to it, winter and summer, during the year in which his statistics were collected. The patients are taken into the fresh air about 11 o'clock A.M., after they have had their breakfast and as a rule are not brought in again until 9 or 10 o'clock in the evening. Their meals are served out of doors and they while away their time by conversation, reading, playing games, etc. The range of winter temperature during which Dettweiler reports this treatment as carried out was between 12 and 41 degrees above zero, F., and it was not deviated from because of rain, wind or snow, since the patients could be sufficiently protected by the canvas curtains. Very feeble patients are taken out and kept in their beds, those suffering from high fever are kept in the open air until daily defervescence sets in, when they are returned to their rooms. The small percentage of those not subjected to this treatment were invalids suffering temporarily from complications.

Marked benefit is said to be observed, such as diminution of fever, cough and expectoration, cessation of sweating, lessened nervousness, return of appetite and digestion, and gain in strength and weight. Physical rest in the open air in the manner described is insisted upon so long as patients have marked fever and wasting. When sufficiently improved, they are allowed to take exercise cautiously, walking at first but five minutes at a time; the amount of exercise permitted being gauged by the effects. If rise of temperature result, no matter how brief the exercise, they are again subjected to rest. The most careful attention is paid to diet, and in all respects they are managed in accordance with the most approved principles of clinical and symptomatic treatment and individual peculiarities.

Certain precautions are necessary in subjecting a consumptive patient to a mode of treatment not only vigorous but at the same time wholly at variance with what he has been accustomed to. He is notoriously sensitive to cold, partly in consequence of anemia, perhaps, but largely because of exaggerated reflex sensibility on the part of the nervous system. The moment a breath of cold air strikes his body, reflex contraction of the cutaneous vessels takes place and he complains of chilliness. This is intensified by his fear of cold air, which makes him shun exposure and prefer a temperature of enervating warmth. Indeed, his sensitiveness to drafts is so exaggerated, that as Dettweiler observes, he may be said "to have a disease of the skin as well as of the lungs." Nevertheless, inasmuch as the *pars minoris resistentiæ* is the pulmonary mucous membrane, a chill may at any time result in congestion if not actual inflammation of the lower respiratory tract. Consequently if a patient is to be subjected to this open air treatment, he must undergo a hardening process to deprive him of his abnormal sensitiveness; that is, he must be gradually accustomed to cool air and drafts without feeling cold. This may be done by friction of the surface, movements of the body and the adjustment of additional clothing. The patient must be exposed to cool air until he begins to experience a sense of slight chilliness, when an attendant must at once begin to rub him briskly to anticipate and prevent its intensification into a pronounced rigor. Sometimes it may suffice to shift about on the couch and move the extremities, or for the attendant to cover him up more warmly with additional wraps. Furthermore, such a sensitive patient should not be taken out of doors in the early morning hours at a time when chills are most easily induced, but toward noon, say 11 o'clock, after he has had his breakfast and the body temperature has begun its diurnal rise. If in spite of these measures a chill and consequent bronchial congestion or inflammation result, the patient must be at once taken to his room and there subjected to a reactionary or revulsive treatment. This consists of dry friction underneath the clothing in such a way as not to subject the patient to still further exposure. Hot drinks should be given, counter irritation applied to the chest and the rubbing continued until the surface is in a vigorous glow. Then if fever comes on with other symptoms pointing to the patient's having taken cold, in spite of the measures to ward it off, he should be confined to his room until all active symptoms abate. He may then again be taken into the open air and be put through the former régime. As a consumptive improves in strength and endurance he may be subjected to morning sponge baths with cool water or diluted alcohol, followed by vigorous friction, and thus gradually become prepared for even so energetic a measure as the cold douche or shower bath. His sleeping apartment should be kept thoroughly aired while the invalid is out of doors, and fresh air in abundance should be admitted, even at night, through an open window either in the same or an adjoining chamber.

Such is the outline of the treatment advocated for consumptives not permitted by circumstances to seek a change of climate. It only remains to describe briefly a practicable method which the general practitioner can carry out in the case of a private patient. In the country or in a town, the air of which is not contaminated by dust and smoke as in a large city, a piazza, so situated as to get the sun, can be utilized for the purpose. By means of canvas curtains or screens the invalid's couch can be sheltered from rough winds and storms. If there be not a convenient veranda, a tent can be pitched or a rough shed built at the side of the house, least exposed to assaults from the weather. In case the consumptive be too feeble to be actually taken out of doors he may occupy a sunny room, whose windows are kept wide open. During the coldest days of winter the temperature of the apartment may be moderated by artificial heat. An open grate fire is the best, but even furnace or stove heat will answer if free from coal gas. A patient in the early stage may be permitted as much exercise in the carriage, in saddle or on foot as he can take without fatigue or rise of temperature. This latter is a most important point and his temperature should be carefully taken and registered both before and after exercise. If even slight fever result, the consumptive should be compelled to

rest in the open air so long as physical effort is found to induce rise of the body heat. An attendant should be provided and instructed to carefully guard her charge against chilling in the manner previously described. A trained nurse would be perhaps the best, but an intelligent member of the family can be instructed in the duties of the position. But this is not all; the patient himself will generally require mental as well as physical treatment. He must be made to understand the necessity of the baths, frictions and douches calculated to harden his skin, also why rest, instead of exercise may be required, and he must be taught not to expect striking results at first. The consumptive is either apt to be easily discouraged if he does not perceive immediate results, or on the other hand to fail of appreciating the importance of, to him, trifling details in the carrying out of a prescribed régime. If the precautions are well observed, the treatment should be carried out rigorously to the extent of even the meals being taken out of doors. In many instances no doubt the prejudice of relatives and friends will have to be overcome, requiring intelligent explanation of the advantages and benefits to be expected. Even in large cities, where a suitable piazza or yard space is not available a measure of the treatment can be carried out in some room selected for the purpose. "Half a loaf is better than no loaf," and if the physician can not secure everything desirable in this mode of climatotherapy, he may yet improve on the overheated, ill-ventilated atmosphere in which so many hectic patients are consumed. There is nothing in this plan that militates against other rational means of treatment. In fact, everything medicinal, dietetic and hygienic, conducive to recovery, should be utilized. Symptoms will not disappear at once or even rapidly, but most of them particularly the fever will be favorably influenced. If the invalid continues to perspire freely his nurse should dry him by prolonged friction under the clothing. His appetite should be encouraged and his dietary carefully supervised each day. Consumption is a mixed process; destruction of pulmonary tissue on the one hand with the phenomena of septic infection on the other. There is consequently abnormal metabolism of tissue, calling for greater intake of oxygen, yet there is deficient lung capacity to meet the demand for increased oxydation and hematosis. Is it not rational therefore that the consumptive be placed in such an environment, as will best fulfill the needs of his organism? The statistics at Falkenstein and Görbersdorf furnish the answer.

Venetian Building.

A CASE OF OBSTRUCTION OF THE BOWEL FOUR DAYS AFTER ABDOMINAL SECTION—SECONDARY OPERATION—RECOVERY.

REMARKS ON PERITONEAL ADHESIONS.

BY FRANK C. FERGUSON, M.D.

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INDIANAPOLIS, IND.

Mrs. G., age 37, living in Huntington, Ind., was brought to my Sanatorium by her physician, Dr. Charles W. Wright, Feb. 15, 1895. She was the mother of two children, aged respectively 13 and 6 years. Had been an invalid since the birth of the younger child. She complained of backache, headache, pelvic pain, indigestion, leucorrhea, dysmenorrhea and insomnia. Her appetite was good, but on account of gastric irritability she could rarely consume a good meal. She was emaciated and extremely nervous. Bowels constipated, vesical irritability.

Pelvic examination discovered a sharply retroflexed uterus bound down by adhesions; and an enlarged prolapsed ovary, pressure upon which elicited exquisite pain. Measurement of the uterus showed a longitudinal diameter of three and one-half inches. After one week's preparatory treatment, abdominal section, with the assistance of Drs. F. B. Wynn, Martha J. Smith and S. E. Crose, was made Feb. 22, 1895. The right ovary was adherent to a coil of intestine, three times its normal size, chronically inflamed, and a number of cysts were scattered over its surface. The corresponding tube enlarged and inflamed. Left ovary and tube healthy in appearance.

The adhesion between the ovary and intestine was carefully separated, a ligature of chromicized catgut adjusted as closely as possible to the cornu of the uterus, and ovary and tube severed with the thermocautery. The stump was thoroughly charred with the cautery and dropped. The uterus was then brought forward, after separating the adhesions, and sutured to the abdominal wall, after Pozzi's method. The incision was closed by six silkworm gut sutures. The operation was completed within a half-hour and the patient put to bed in good condition.

The progress of the case was satisfactory in all respects until the following Sunday evening, (four days after the operation) when symptoms of intestinal obstruction made their appearance. The patient vomited several times and had paroxysmal pain in the right ovarian region. Several efforts which failed, were made during the night to procure an evacuation from the bowels by rectal injections. On Monday morning the patient expressed herself as feeling better and took some nourishment which she retained; pulse 120; temperature 99.5 degrees F. There was tenderness upon pressure over the right ovarian region, but no tympanites or tenderness of the abdomen. During the day a saline cathartic was given, followed by rectal injection, but no movement was secured. In the evening, nausea and vomiting again supervened, paroxysmal pain increased, which was relieved with morphia hypodermatically; the pulse mounted to 140, temperature 103 degrees F., and the abdomen became rapidly tympanitic. During the night she was given 10 grains of calomel in divided doses and three doses of Rochelle salts which she retained. This was followed in the early morning with high rectal injections, but the bowels obstinately refused to respond.

Condition Tuesday morning at 10 o'clock. Temperature 99.5, pulse 140; abdomen greatly distended and interfering with breathing. She is very weak but has not that haggard expression of countenance invariably noticed in peritonitis; still complains of colicky pain in the right ovarian region. Inspection of the abdomen revealed several coils of the small intestine in active vermicular motion, which convinced me that I had been in error in attributing the obstruction to paresis of the bowel. It evidently arose from adhesion, most probably between the stump and intestine.

During the day she was given, hypodermatically, every three hours, 1-30 grain strychnin and 1-100 gr. digitalin. A rectal tube was passed several times as far as the hepatic flexure of the colon, and injections given of turpentine emulsion, hot water

and milk of assafetida, with no result, except a passage of flatus when the fluid was expelled. In the afternoon I called Dr Dunning in consultation. Her condition had been steadily growing worse during the day. We agreed that peritonitis did not exist, that the bowel was obstructed from adhesions and that a secondary operation afforded the only hope of saving her life. I had telegraphed for the husband on the previous night and was anxiously expecting him in the early afternoon, as I did not like to reopen the abdomen without his consent, and yet time was precious. He was late in his arrival, but after explaining matters to him he consented that I might do anything that in our judgment was necessary. At 7 P.M., assisted by Drs. L. H. Dunning, Martha J. Smith and Frank B. Wynn, who kindly gave the anesthetic, I reopened the abdomen by rapidly severing the sutures with scissors and pressing the wound apart with my fingers. A coil of intestine was found adherent to the ovarian stump, bending it to a sharp angle, thus completely obstructing the bowel. The peritoneum was normal; the fundus uteri well up against the abdominal wall. After liberating the intestine and flushing the peritoneal cavity with hot aseptic water, a quantity of which was allowed to remain, a strip of iodoform gauze drainage was passed down and made to cover the stump, in order to prevent a recurrence of the accident. The fundus uteri was again sutured to the abdominal wall and the wound closed with silkworm gut sutures. A pad of iodoform gauze covered with a thick layer of absorbent cotton and a bandage completed the peritoneal toilet, and the patient was placed in bed. Pulse 150; temperature 100 degrees F. In the course of an hour she rallied from the anesthetic, but was so exhausted that she could not speak above a whisper. Nausea, vomiting and pain, however, had disappeared. During the night she received three rectal injections of milk and whisky, which she retained, and three hypodermatic injections of 1-30 gr. of strychnin and 1-50 digitalin and several hypodermics of 1-100 gr. nitro-glycerin, when unusual depression was noticed.

At 8 A.M. Wednesday morning she suddenly went into collapse; pulse disappeared, and respiration declined to four or five per minute. I thought she was dying and called the husband. An injection of 1-50 grain nitro-glycerin, however, soon brought up the pulse and she again became conscious. Pulse 180. Throughout the day and during the night, these periods of extreme depression reappeared every hour or two, requiring the utmost vigilance upon the part of both nurse and physician.

It is unnecessary to go further into the details of symptoms and treatment; suffice it to say that twenty-four hours after the operation her bowels moved copiously; very slowly she came out of the awful depression which every moment threatened her life, and at this writing, one week after the secondary operation, she has passed the danger line, and I am sure will make a rapid convalescence.[1]

How to prevent peritoneal adhesions after abdominal section is, perhaps, the most important problem that now confronts the abdominal surgeon. The technique of intra-abdominal surgery, so far as the removal of abdominal growths, diseased organs and tissues is concerned, has been brought to such perfection that little remains to be done; and it is doubtful if any further improvements in this direction will be of much utility. But no safe and expeditious method has yet been devised for the prevention of peritoneal adhesions—the constant dread of the surgeon and a standing menace to the life, health and comfort of the patient.

While it is true that plastic surgery will contribute much, in some cases, to the prevention of post-operative adhesions, yet it is oftentimes practically impossible to cover all injured surfaces with healthy peritoneum, both on account of the difficulty in finding them, and because the length of time consumed in plastic work is more dangerous to the life of the patient than the risk of adhesions. The Trendelenburg position enables the operator to discover peritoneal traumata which, otherwise, would not be found; nevertheless the greatly increased dangers to the patient from prolonged anesthesia and long continued exposure of the peritoneum, will, in many cases, overbalance any advantages that accrue from plastic work.

I think it is generally admitted by abdominal surgeons that, other things being equal, the sooner an operation can be completed and the abdomen closed the less danger there is to the life of the patient. Dr. Alex. J. C. Skene, in an able article contributed to the *Brooklyn Medical Journal* (February, 1895) entitled, "Defects in Surgery as taught and practiced at the present Time," calls especial attention to prolonged anesthesia and slow operating as fruitful causes of death after surgical operations. "Rapid operating," he says, "is essential and imperative. Every moment wasted in an operation is a detriment to the patient as well as the surgeon. Operations that are quite well done are done quickly, as a rule. Slow operating is generally imperfect. It is often said that a quarter of an hour, more or less, in the duration of an operation makes very little difference. This I conceive to be a very great error. . . . Rapidity of operation is especially necessary in order to avoid prolonged anesthesia. All anesthetics are injurious, and tend to retard recovery from operations and impair the health of patients subsequently. The longer one is kept in a state of anesthesia, the more harm is done. . . . Again, time is precious, because the longer the tissues are exposed and the more they are handled, the more slowly and imperfectly they heal. Tissues exposed to the air for an hour or more, begin preparation for healing by granulation and are, therefore, less capable of uniting by immediate union. . . . Especially are non-union, suppuration and sepsis likely to follow if the patient has been intoxicated for a long time by the use of the anesthetic; and unfortunately, prolonged anesthesia and unnecessary injury of tissues usually come together."

I do not quote the above as an argument against plastic surgery of the peritoneum whenever it can be done quickly and with safety to the patient. But in all cases where we have reason to believe that the time consumed in such work will endanger life, some other means should be adopted to minimize the danger of post-operative adhesions, and the abdomen closed as quickly as possible. A living patient with intra-peritoneal adhesions is much more to be admired and is a far better advertisement for the surgeon than a dead or dying one whose interior has been ever so artistically decorated with plastic surgery.

Are there any expeditious and efficient measures

[1] March 30, 1895. The patient has completely recovered. The uterus is in normal position and all symptoms of pelvic disease have disappeared.

which can be used to prevent post-operative adhesions? Several plans have been proposed by authors, but the limits of this paper will not permit their enumeration. I shall, therefore, speak of but two; those which from personal experience I believe will give the best results, viz., flushing the abdominal cavity with aseptic water, and frequent changes in the posture of the patient.

Malcolm, of London, in 1891 first directed attention to a mode in which washing out the peritoneal cavity might act beneficially in the prevention of adhesions. (*Annual of the Universal Medical Sciences*, 1891, vol. III): "It affords," he says, "an important means for promoting a natural adjustment of the intestines. If in completing the process of washing, the abdominal cavity be distended with fluid, the intestines must be floated up toward the highest circle of the cavity, thus facilitating changes in the relative positions of the various coils and straightening out the mesentery, undoing acute twists and throwing it and the bowels into natural folds. If the fluid is then permitted to flow out or carefully sucked out of the pelvis by means of a tube, the intestines will tend to settle down in a natural position. Adhesions, when the intestines are in normal position, do not produce obstruction."

My own personal experience has convinced me of the great utility of this method. I do not, however, permit the fluid to escape from the abdominal cavity, but leave it there to be slowly absorbed. It can do no possible harm and I believe that it contributes no little to the prevention of adhesions by permitting the intestines to glide freely upon each other so long as the fluid remains in the cavity, thus forestalling adhesions in their incipiency.

The next measure for preventing adhesions, which admirably supplements the preceding, is a frequent change of the posture of the patient. I was led to adopt this plan from the observations of Dr. Malcolm, that patients who suffer much after abdominal section from vomiting caused by the anesthetic, not infrequently recover more satisfactorily and more promptly than those who are not so affected. His explanation is, that the retching and straining in the efforts at vomiting have a tendency to restore to a natural position the displaced intestines before adhesions form or become firm. This explanation, in my opinion, does not go far enough, for it is quite probable that the churning of the intestines by the diaphragm and abdominal muscles, during the act of vomiting, is a potent factor in the actual prevention of adhesions, as well as tending to restore the intestines to normal position.

During the last three years I have adopted these methods in several cases of abdominal section for pyosalpinx in which the adhesions were of such nature that a differentiation of tube, ovary and intestine was wellnigh impossible. The adhesions were broken up and ovaries and tubes removed with much difficulty. The patients recovered promptly and have been, up to date, free from pelvic pain, neither have they had at any time other symptoms of adhesions. I can not say that adhesions do not exist in these cases, but if they do they are so benign in character that they produce no inconvenience.

I did not flush the pelvic cavity with aseptic water in the case reported, because there seemed no necessity for doing so. The operation was done aseptically; it was almost bloodless, and but a few drops of blood, if any, escaped into the peritoneal cavity; the traumatism inflicted upon the peritoneum was very slight, indeed, and yet within four days it became necessary to reopen the abdomen to save the life of the patient. I am firmly of the opinion that had I flushed the pelvic cavity with aseptic water and closed it while full of the fluid the accident would not have occurred.

There are two other points in the case of great interest, viz., the extreme rapidity of the pulse for four or five days succeeding the second operation, and the large amount of strychnia given hypodermatically. During the first twenty-four hours succeeding the operation the pulse did not fall below 160, and frequently ran to 180. During the second day it ran from 150 to 160; third day from 140 to 160; fourth day from 130 to 150; fifth day from 120 to 140; sixth day from 110 to 120. On the seventh day it declined to 100. The temperature ran from 99.5 to 103 F. During the twenty-four hours preceding the operation, the patient was given hypodermatically, every four hours, 1-30 gr. strychnia and 1-100 gr. digitalin. The first twenty-four hours succeeding the operation she received every four hours the same quantity of strychnia and digitalin, and some six hypodermics of 1-100 to 1-50 gr. nitro-glycerin. The third day she received, every four hours, the same quantity of strychnia and digitalin; the fourth day the same doses every six hours; the fifth day three doses. It was not until the fourth day that I perceived any distinct symptoms of the physiologic action of the drug.

The case is a very instructive one and teaches two or three valuable lessons, viz:

1. That serious obstruction of the bowel may arise from an insignificant wound of the peritoneum.

2. That perseverance in judicious therapy may sometimes save life, even when the case seems absolutely hopeless.

3. It emphasizes the necessity, in such cases, for prompt surgical interference. Had we deferred the operation in the case reported, a few hours longer, a valuable life would have been sacrificed.

In conclusion, I wish to express my grateful acknowledgments to Drs. L. H. Dunning, Frank B. Wynn and Martha J. Smith, to whose wise counsel and efficient assistance I am indebted in a great measure for the successful issue of the case.

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VAGINAL OÖPHORECTOMY.

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It has been very evident to the writer, for the past two years, that celiotomy for the removal of small, cystic, prolapsed, painful or adherent ovaries, or small tubal cysts or pus tubes, even by those who have done the greatest number of these operations, is fast falling into disrepute.

Many of our leading gynecologists are curetting, or packing the uterus, or attempting to catheterize the Fallopian tubes, with the vain hope of avoiding the necessity of opening the abdominal cavity for their removal in the usual way.

At least two of our latest works on gynecology recommend that curettage be tried for pus tubes, and if that fails, give rest and expectant treatment, with

general tonics, and the pus will often disappear by absorption, or through inspissation.

The same writer admits, however, that single pus tubes are more dangerous than double ones, owing to the liability to accident should the woman become pregnant, and it is in such cases that the operation I here advocate will be especially applicable.

The accidents incident to making and closing the abdominal incision are so well known to every operator that I will not dwell upon them, also the unfavorable sequelæ, such as hernia, stitch abscess, and last but not least adhesions, not alone of the omentum but also of the intestine, producing colic, pain, and even strangulation.

These and many more are the reasons why the abdominal method of removing small cystic, prolapsed or adherent tubes or ovaries should be abandoned for the vaginal method. By removing them through a small incision in the posterior cul-de-sac, where ample room is provided for the operation, in the hands of any one competent to do major gynecologic surgery, it is a safe, simple procedure, free from the dangers just enumerated. Should the operation be undertaken and a tumor found to be too large or adherent to be completely removed in this way, the operator can then resort to the abdominal method, and the opening in the vagina will do no harm and may perchance do good by affording perfect drainage.

I also believe that this is a valuable form of drainage and should be resorted to often, when a drain is required following abdominal section.

The steps of the operation are as follows: With the patient in the extreme dorsal position, held by a Clover's crutch, the vagina and external genitals are thoroughly cleansed with soap and water, bichlorid and alcohol. The posterior vaginal retractor being introduced (the self-retaining one of Dr. Beach, of Chicago, being the best I have used), the posterior lip of the cervix is caught by a vulsellum forceps, the uterus curetted, and irrigated if necessary. The cervix is then drawn forward and upward, and with a flat curved pair of scissors the posterior vaginal mucous membrane where it joins the cervix is clipped and with closed scissors or the finger it is stripped back from the cervix to the peritoneum, which is caught with a catch-tooth forcep, and an opening made large enough to admit a finger. The incision may then be enlarged laterally at will, provided you do not cut up, on either side to the uterine arteries or down to the rectum.

There is no bleeding of importance and with two fingers of one hand, then the other, the ovaries and tubes can be examined and adhesions, if not too strong, broken. They are then easily drawn down into the vagina, caught with a strong pair of forceps, the pedicle ligated, severed, and stump returned.

In one instance where I was required to operate quickly, I clamped the stump with pressure forceps, removed both tubes and ovaries, leaving the forceps in position for thirty-six hours. The vaginal opening was left for nature to close, which it did, in a few days, the patient leaving the hospital well in three weeks.

If there have been many adhesions broken, or a pus cavity opened, the vaginal wound should be packed with a strip of iodoform gauze; if not, it should be closed with one or two stitches of silkworm gut, passed through the mucous membrane and peritoneum, and fastened with the shot and coil.

The time required for the operation should not exceed twenty minutes and the cervix may be repaired, and any of the vaginal operations done, at the same time.

When there is extreme retro-displacement of the uterus, with prolapsed adherent ovaries, their removal will generally allow the uterus to regain its normal position, and the depletion incident to the curettement, repair of cervix, etc., will often permanently cure the patient.

If the retroversion is extreme, the uterus may be anteverted and stitched to the anterior vaginal wall after the method of Mackenrodt which is so highly indorsed by Martin, of Berlin; or in the hands of an expert the so-called Alexander's operation might be done after the finger had passed well around the uterus making sure there were no adhesions left.

I have performed vaginal oöphorectomy twenty times for the different conditions described above, including two for large gonorrheal pus tubes, and all have recovered from the operation, nor has there been any unfavorable complication, and I am sure that the after results have been much better than the same kind of cases for which abdominal section has been done. The difference in the amount of shock and the time required for recovery between the two methods can be compared with the same between vaginal and abdominal hysterectomy. I have searched in vain through my limited library to find the vaginal removal of ovaries recommended, and although my experience with the operation has not been extensive, I feel that the success which I have met may stimulate others to adopt it and write further on the subject.

The advantages I claim for the operation are as follows:

1. Rapidity of operation—twelve to twenty minutes.
2. Freedom from hernia.
3. Freedom from shock and vomiting.
4. Freedom from adhesions or intestinal injury.
5. Freedom from stitch abscess, causing long and tedious convalescence.
6. Natural drainage, preventing peritonitis.
7. The ease with which other operations upon the cervix and vagina may be done at the same time, which so greatly aid in restoring the patient to health.

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER. 1854–1894.

BY JOSEPH JONES, M.D., LL.D.
NEW ORLEANS, LA.

(*Continued from page 482.*)

CHAPTER VII.

EXAMINATION OF FLUID BLOOD FROM CAVITIES OF HEART THREE HOURS AFTER DEATH.

The blood after its abstraction coagulated, forming a loose clot; the fibrin, however, dissolved and no serum was separated. Under the microscope the blood corpuscles presented no special alterations; when spread upon the glass slide, and also during the coagulation of the blood, they rapidly agglomerated together, forming rouleaux, as in inflammation in the blood of the horse. The running together of the colored corpuscles was as rapid and as complete as in cases of well marked inflammation.

It was impossible to determine the weight of the

fibrin, or to collect pure serum, free from colored blood corpuscles and the coloring matter of the red corpuscles, as the fibrin rapidly dissolved after its partial separation. The fibrin was in very small amount, and apparently not one-thirtieth of the usual proportion. Specific gravity of blood from cavities of heart, 1047.

1,000 parts of blood from cavities of heart contained:

Water		821.57
Solid residue 178.43	Organic matters, colored corpuscles, albumin, urea, extractive and fatty matters, etc.	170.59
	Fixed saline constituents	7.84
	Fibrin	Traces

Three hours after death, specific gravity of blood from vena cava 1062. Blood fluid and warm when drawn; coagulated, forming a very loose coagulum, which did not inclose the whole amount of colored corpuscles. This coagulum gradually dissolved, and it was impossible to determine the amount of fibrin or to obtain clear serum free from colored corpuscles. Reaction of blood slightly acid.

1,000 parts of blood contained:

Water		775.00
Solid residue 225.00	Organic matters, colored blood corpuscles, albumin, urea and ammonia	217.31
	Fibrin	Traces
	Saline constituents	7.69

It will be observed that the blood in the vena cava contained more solid matter than that in the cavities of the heart; it would appear that the returning current of blood from the capillaries and venous system, owing to the tendency to coagulation and congestion, contained more solid matters than the blood of the heart.

No vegetable or animal forms were discovered in the blood.

Yellow fever blood exposed upon my table, in capsules and bottles for days and weeks, and examined microscopically from time to time, developed no special forms which could be referred exclusively to yellow fever. Only the simpler forms of animal and vegetable life made their appearance, which might be developed in any other similarly constituted albuminous fluid.

In a fatal case of yellow fever, occurring in one of my wards in the Charity Hospital during the month of October, 1871, in a stout young man, aged 25, who from the results of the post-mortem examination, had evidently suffered with malarial fever, incipient cirrhosis of the liver and granular degeneration of the kidney, before the supervention of yellow fever; death occurred after an illness of ten days; the disease was complicated during its progress by the supervention of pericarditis, pleuritis and pneumonia. The urinary secretion was abundant until near the close of life, and the urine contained blood corpuscles and the coloring matters of the blood. The cavities of the heart were filled with loosely coagulated blood. Portions of the lungs were infiltrated with blood, as if hemorrhage had taken place in and around the textures of the lung. Louis, in his "Anatomical, Pathological and Therapeutic Researches on the Yellow Fever of Gibraltar" of 1828, has shown that the exudation of blood into the pulmonary tissue was frequent, while the inflammation of that tissue was rare in subjects who had died of yellow fever. He found the lungs entirely natural in three subjects only.

Black spots, and masses of the same color, more or less impermeable to the air, were found in these subjects usually of a brownish black, rarely of a crimson hue; they were more or less concentrated, and occupied a variable space at the exterior or in the interior of the lung, and in some cases they were found only in the lower lobe. The black or blackish masses which existed in the lungs of six individuals contained no air, had no granular aspects as in the hepatized lung of pneumonia and presented no traces of organization; usually they could be easily broken down, in some cases yielding by pressure; the blood of which they were almost entirely composed, and the pulmonary parenchyma remained apparently of its natural consistency. In this case complicated by the suppuration of inflammatory disease, the fibrin of the blood was not diminished to the extent usual in yellow fever. The pre-existing effects of malarial fever were evident in the masses of black pigmentary matter, derived from the hematin of the blood, scattered through the lobuli of the liver, but chiefly accumulated in the peripheral portions, in and around the portal veins and portal capillaries.

In uncomplicated yellow fever these altered masses of hematin are uniformly absent from the structures of the liver, their place is supplied by oil globules; and it would appear that in this disease the albuminous constituent of the blood and tissues is chiefly altered, the altered albumin appearing in abundance in the urine, while in malarial fever the colored blood corpuscles are chiefly attacked, the coloring matter being deposited in various organs, but in the acute stages of uncomplicated malarial fever, albumin rarely, if ever, appears in the urine.

The results of my investigations upon the occurrence of pigment in the blood and in certain organs, as the liver, spleen and kidneys, in the capillaries of the brain, in persistent intermittent and remittent malarial fevers, in chronic malarial poisoning, correspond with those of Meckel, Virchow, Heschl and Platner, and more especially with the researches of Frerichs. Not only is the spleen enlarged and the color of the liver altered to a steel gray, blackish slate and chocolate or bronze color, in individuals who die from the effects of marsh poison, but this change of color may extend to other organs as the kidneys and brain. Careful microscopic examinations of sections of the various organs have shown that these changes of color are clearly referable to the formation and accumulation of pigment matter resulting from destructive and abnormal changes of the colored blood corpuscles. While from the anatomic structure of the spleen, as well as from the great congestion which it undergoes during the cold stage of malarial fever, it is without doubt true that a large portion of this pigment is formed in the sinuses of the spleen and passes from this organ into the portal veins, and that part of it remains impacted in the capillaries of the liver, while the rest passes through these capillaries, and is carried into the general circulation; at the same time it must be admitted that under the action of the malarial poison, the transformation of the red matter of the blood into black pigment may take place everywhere throughout the vascular system, and also external to it, but more especially in the liver and kidneys. If fine sections of the malarial liver be made with Valentine's knife, and examined under comparatively low magnifying powers (one and a half to one inch), as I have done in a large number of subjects, accumulations of pigment will be observed in the capillary network of the portal

and hepatic veins, either uniformly distributed or limited to certain regions, sometimes deposited chiefly in the interlobular veins, forming black margins to the lobules of the liver; or more uniformly, extending from the circumference of the lobules halfway to their center, or penetrating as far as the beginning of the hepatic veins. The hepatic cells, as in the case under consideration, remain exempt from the deposits of black coloring matter.

That portion of the pigment originating in the spleen and passing through the capillaries of the liver, enters the general circulation and may be deposited in various organs as the brain, kidneys and lungs, inducing morbid symptoms varying in character and degree with the organ whose capillary circulation may be especially retarded by the arrest of the pigment particles. The larger particles remain impacted in the capillaries of the portal vein and obstruct the circulation of the blood through these vessels, causing various derangements in the secretion of the liver, and in some cases extensive capillary stagnation of the blood in the roots of the portal vein, attended with exhausting hemorrhages from the gastro-intestinal mucous membrane, of an intermittent character, profuse diarrhea, vomiting, serous effusions into the peritoneal sac and, finally, from the obstruction of many of the smaller branches of the portal vein, chronic atrophy of the liver, with its distressing and fatal consequences.

Even by simple inspection of the brain we may form some idea, not only as to the cause of the alteration from the color of health, but also of the amount of pigment which has passed unarrested through the vessels of the liver and lungs. The mechanical interruption to the circulation of the brain thus induced, not only gives rise to a peculiar train of symptoms, but may also cause the rupture of the small vessels and the formation of numerous capillary apoplexies, as has been shown so clearly by Meckel, Platner and Frerichs.

Frerichs has shown, and I have upon many occasions confirmed the accuracy of his investigations, that the large pigment granules and cells which enter the kidneys along with the arterial blood, not unfrequently become impacted in the capillary coils of the Malpighian bodies, and by altering the pressure of the blood give rise to derangements in the secretion of urine, which exercise a powerful influence over the further progress of the disease. Albuminuria, fibrinous casts, pigment masses and granules, blood corpuscles characteristic of the urine in malarial hematuria should to a large extent be referred to the effects of the pigment particles arrested in the capillaries of the kidneys. Hemorrhage, congestion, exfoliation of the excretory cells of the tubuli uriniferi, fibrinous exudation into the excretory tubes, and even complete suppression of the urinary secretion may occur in such cases. Destruction of the colored blood corpuscles may in like manner occur directly in the capillaries of the kidneys in malarial fever, and the pigment thus formed may give rise to a similar train of symptoms.

As far as my observations have extended, no such changes take place in the colored blood corpuscles and various organs in yellow fever—they are not destroyed in the various organs, neither is there a special diminution of these important elements, and all the organs and tissues are free from the presence of pigment granules in uncomplicated yellow fever.

If, however, as in the preceding case, the yellow fever occurs in one who has previously suffered with malarial fever, or if the disease supervenes upon yellow fever, then the pigment matter may be present to a greater or less extent, especially in the liver and spleen.

The result obtained by actual chemic analysis and careful microscopic research, viz.: that the colored blood corpuscles are not specially destroyed in yellow fever, as is the case in malarial fever, is still further sustained, by the well-established fact that, in general, convalescence is rapid and complete, and attended with a speedy restoration of all the healthy functions. Such a rapid and complete restoration would be impossible if the colored blood corpuscles were destroyed to any great extent in yellow fever.

During the latter months of 1870, when 587 deaths from yellow fever, were officially reported by the authorities of New Orleans, although the number was probably greater, as 445 deaths were during the same period (August, September, October, November and December), referred to the various forms of malarial fever, I instituted in like manner careful chemic and microscopic examinations of the urine, blood and black vomit of the various organs in yellow fever, and the results were similar in all respects to those recorded at length in the preceding pages; we shall for the sake of brevity simply allude to some of the more general results.

The type of the disease was severe and I saw cases in which the defibrinated blood oozed from leech bites, from the ears and from the gums and mouth; some cases suffered with profuse hemorrhage from the bowels before death. The bodies underwent putrefaction a very short time after death, having emitted during life a most disagreeable, foul yellow fever odor. The black vomit contained uniformly colored blood corpuscles variously altered; also mucous epithelium from the gastric mucous membrane; sometimes various matters, as medicine, food and drink taken by the patient; oftener numerous vibrios and plants resembling the torula and sarcinæ were present, but I was unable to detect any specific vegetable forms characteristic of yellow fever. The urine contained albumin and in the fatal cases was almost uniformly suppressed. In the worst cases the urine consisted only of a yellowish albuminoid fluid discolored by bile, containing little or no urea, but loaded with excretory cells and granular fibroid casts of the tubuli uriniferi. The lightest colored urine was frequently characteristic of the severest cases.

As a general rule, the blood changed to the arterial hue upon exposure to the atmosphere, and the cut and exposed muscles presented a beautiful scarlet color.

In some cases golden-colored heart clots of small size and slight consistency, composed of yellow laminated fibrin were observed in the cavities of the heart, and in those cases which had suffered with black vomit. Blood drawn from the cavities of the heart, after death from yellow fever, and carefully examined under the microscope presented swollen and stellate blood corpuscles. This stellate condition of the blood corpuscles appears to be very common in the blood of yellow fever, and even in that drawn from the veins during life. When a drop of yellow fever blood is allowed to fall upon white bibulous paper, the red corpuscles occupy the original area of the drop, and are surrounded by a golden circle of

the serum colored by bile. In any fatal case occurring during the fall of 1870, which fell under my observation, the serum was of a bright golden color from the presence of bile.

The nervous symptoms characteristic of this disease were referred, in great measure at least to the retention of the biliary matters in the blood, to the suppression of the function of the kidneys and the retention in the blood of the urinary constituents, especially of the urea in the blood.

The chief causes of death in these cases of yellow fever appeared to be the direct action of the febrile poison upon the nervous system and blood, depressing and deranging the one and rendering the other unfit for the proper nutrition of the tissues; the suppression of the functions of certain organs, as the kidneys and liver and the retention in the blood of the excretions normally eliminated by these organs. Blood loaded with bile and urea is evidently unfit for the maintenance of healthy nutrition and of the vital acts.

The hemorrhage from the gastric mucous membrane appeared to have been due to several causes, as the direct irritant effect of the poison upon the gastric mucous membrane, the destruction of the fibrin of the blood, the physical and chemical alterations of the albumin, and the irritant and dissolvent and *excoriating* effect of the carbonate of ammonia, resulting from the decomposition of the urea.

The black vomit in yellow fever, as shown by the observations upon numerous specimens obtained during life, and taken from the stomach after death, consists of altered blood corpuscles, the epithelial cells of the stomach, mucus corpuscles, various matters received into the stomach, as food, medicine, water, etc., serous exudations, acids of the gastric juice (acetic, hydrochloric and phosphoric), urea, carbonate of ammonia, and various forms of animal and vegetable life of simple organization.

After careful examinations of numerous specimens of black vomit, we failed to detect any forms which could be considered as characteristic of this fluid; which may not be developed in albuminous fluids exposed to the action of the atmosphere, at all times, whether yellow fever be present or absent.

The careful microscopic examination of the blood with the highest powers, was equally fruitless in disclosing any forms of animal or vegetable life which could be considered as active in the production of yellow fever, or as invariably accompanying its manifestations.

We have established by the preceding observations:

1. The blood in yellow fever often if not always contains abnormal amounts of *urea* and *bile*.

2. The presence of the urea and bile in the blood is attended with certain nervous disturbances.

3. It is probable that the extreme slowness of the pulse which characterizes many cases of yellow fever, after the subsidence of the first stage of febrile excitement, is due to the presence of the bile and urinary constituents in the blood, as well as to the anatomic lesions of the heart.

4. The fibrin is greatly diminished in the blood of yellow fever.

5. The passive hemorrhages and capillary congestion in yellow fever are without doubt largely dependent upon the diminution of the fibrin.

6. The colored blood corpuscles are not specially diminished in yellow fever; and in this respect the disease differs widely from malarial fever.

Case of yellow fever engrafted on malarial fever; suppression of urine; black vomit; hemorrhage into gall bladder. Francis Dubusé; harness maker, age 32, native of France. Admitted Oct. 4, 1874, to Charity Hospital with intermittent fever; discharged October 9. After his discharge moved across the river to Gretna and followed the occupation of milkman. Some time, however, in the month of November, returned to the city and resided in Chartres Street in a neighborhood in which cases of yellow fever had occurred.

Entered Charity Hospital December 4. Had been sick with pain in the head, back and extremities for six days and had thrown up black vomit before entering Charity Hospital. Condition on entrance: deep yellow (jaundiced) color of skin and conjunctiva of eyes; sluggish capillary circulation; slow pulse; nausea; vomiting black vomit; temperature but slightly elevated above the normal standard. Urine of yellow color, turbid from the presence of urinary casts and cells from the urinary tubes and granular matter. Urinary casts as soon as the albumin coagulated by heat, presented a golden color. Diagnosis: yellow fever. The urinary excretion progressively diminished in amount, and toward the close of life, during the last thirty hours, was entirely suppressed. Died December 9, on the ninth day of the disease.

Post-mortem six hours after death. Exterior, head, trunk and extremities pale; surface of entire body of a golden color; the dependent portions being mottled of a purplish color. Black vomit issuing from corners of mouth. Head: blood vessels of brain congested with dark blood. Thorax: lungs normal; lower portions of darker color than upper portions, from settling of blood. Heart: yellow, flabby, softened muscular textures readily crushed between the fingers, and under the microscope the fibers of the heart presented the changes characteristic of yellow fever, the transverse striæ being indistinct, and numerous oil globules and yellow granular matter being deposited within and around the muscular fibers.

Abdominal cavity: mucous membrane of the stomach, of a deep purple color; with deep ecchymoses. Under a low magnifying power the ruptured mouths of the small blood vessels were clearly seen. The stomach contained several ounces of thick black vomit resembling putrid blood. Reaction of black vomit neutral. Specific gravity of black vomit 1032. Upon analysis, 1,000 grains of black vomit yielded 70 grains of coagulable albuminoid matters. After the removal of the albuminoid and coloring matters of the blood from the black vomit, the remaining liquid contained in addition to phosphates, sulphates and chlorids of the alkalies and alkalin earths, urea and salts of ammonia. Under the microscope, the morphologic elements of the black vomit were found to be colored blood corpuscles, mucus, corpuscles and cells from the mucous membrane of the stomach. No spores or vegetable organisms were observed. Upon standing, vibrios made their appearance in considerable numbers; but no fungoid growths were developed even at the end of forty-eight hours. The temperature appeared to be too low for the rapid development of the fungi. It is, however, worthy of note that the yellow fever had attacked this patient in the winter, December 1.

Liver: This organ presented on the surface a dark purplish mottled color; and upon a superficial examination presented nothing abnormal in color, except an increase in the depth of the normal shade. When sections of the liver were made, carefully washed and examined they presented a distinct and characteris-

tic mottled color, many of the lobuli being of the peculiar yellow color of yellow fever, and others presenting a variegated yellow and deep bronze color. Careful microscopic examination revealed the fact that the yellow portions were loaded with oil globules and yellow granular matter as in yellow fever, and that the more deeply colored portions contained numerous pigment particles as in malarial fever. The mottling of the usual yellow fever deposits, was due to the deposit of pigment particles in and around the portal capillaries during the preceding attack of malarial fever. Under the microscope the liver cells were found to be loaded with oil globules as in yellow fever; dark pigment particles were also scattered through the structures of the liver, but existed in greatest numbers within and around the peripheral or portal capillaries of the lobuli. The peculiar appearance of the liver in this case, was clearly the results of the combined effects of yellow fever and malarial fever; the latter having preceded the former.

Gall bladder: the gall bladder was distended with a dark fluid of a brownish and reddish black color, and upon a superficial examination resembled this viscus in malarial fever. When the bile was poured out it resembled in appearance dark liquid blood. Specific gravity of the fluid from the gall bladder 1021.5; reaction neutral. Amount of fluid in the gall bladder 1,600 grains. Heat and nitric acid caused coagulation; coagulum of a dark mahogany color like that always formed in liquid blood under the action of heat and nitric acid.

Under the microscope, the fluid from the gall bladder was found to contain numerous altered colored blood corpuscles and epithelial cells of the mucous membrane of the gall bladder. The mucous membrane of the gall bladder was of a deep purple congested color, resembling in all respects the deeply congested and purple mucous membrane of the stomach. Amount of coagulable albuminoid matter in 1,600 grains of bloody liquid from the gall bladder, grains 44.70. Nitric acid produced no change of color, similar to that caused by the coloring matter of the bile; numerous tests also repeatedly and carefully applied failed to show the presence of the biliary acids. The reagents simply caused coagulation of the albumin, as in ordinary liquid and diluted blood. The filtrate obtained after the coagulation and removal of the albuminoid elements of the blood was found to be loaded with urea. The liquid therefore found in the gall bladder was not *bile* but *altered liquid blood*, similar to that poured into the stomach and called black vomit.

We have in this case and in the preceding facts, a striking and important illustration of the sources of error in the investigation of the pathologic anatomy of yellow fever. Superficial observers here and elsewhere have proclaimed that yellow fever had no distinctive pathology. Such assertions possess no value unless based upon the most careful and thorough microscopic and chemic investigations.

Kidneys: these organs presented a yellow color resembling that of the heart. When sections of these organs were made with Valentin's knife and carefully examined under the microscope, the Malpighian corpuscles and tubuli uriniferi were found to be loaded and impacted with desquamated cells, oil globules and yellow granular matter.

Yellow fever engrafted on intermittent fever, suppression of urine; black vomit; death; hemorrhage into gall bladder. E. Johnson, age 27, native of New York, laborer. Came to New Orleans in January, 1874. Went from this city to work on jetties at the mouth of Mississippi River. Entered Charity Hospital Nov. 20, 1875. Patient stated that he had been suffering with intermittent fever for one month. Walked about the ward until the evening. I saw him the next morning, November 21. Has rapid pulse and high fever. Quinin was administered freely but without any effect upon the fever. November 22, fever continues; patient very restless; eyes injected; tenderness over region of liver, epigastrium and small of back over the kidneys. Has been vomiting. Quinin repeated, but without any beneficial effects. November 23, fever declining; great capillary congestion of face, neck and extremities; yellow tinge of surface; very restless and delirious; injected eyes; urinary excretion greatly diminished. November 24, heat of body almost normal, but capillary congestion intense and jaundice increasing. Urinary excretion greatly diminished and in fact almost wholly suppressed; delirium; has vomited dark "coffee ground" matter. November 25, restless and delirious; pulse 68; respiration 25; temperature of axilla 95 degrees. Head, trunk and extremities feel cool. Great capillary congestion of surface which presents a purplish and mottled appearance, with a distinct golden color; complete suppression of urine. Upon careful examination the bladder is found to be entirely empty; great prostration of muscular and nervous systems; patient delirious and restless. During the past two days it has been impossible to arouse the patient or to obtain from him any coherent answer; 6 P.M., pulse 68; respiration 28; temperature of axilla 95.5 degrees. The patient died one hour after this observation.

Necropsy thirteen hours after death: Exterior, trunk and limbs full, round and plump; skin yellow; dependent portions of head, neck, trunk and extremities present a purplish mottled appearance. Thorax: heart, yellow and softened; weight nine and five-eighths ounces. Transverse muscular striæ indistinct; oil globules and yellow granular matter deposited in large amount, within and around the muscular fibrillæ of the heart. Lungs normal; dependent portions congested. Abdominal cavity: liver yellow and enlarged. Under the microscope, sections of the liver, with Valentin's knife, presented the characteristics of the yellow fever liver; immense numbers of oil globules of various sizes, and yellow granular matter deposited within and around the cells and capillary networks of the liver. The liver also contained pigment particles, resulting from the preceding attack of malarial fever.

Gall bladder: The gall bladder contained 421.4 grains of thick, deep green, almost black, tenacious bile, which poured with difficulty and could be drawn out into long strings. When heated the whole mass coagulated firmly, resembling in this respect albumin or liquid blood, colored by biliary matter. Under the microscope the bile was found to contain an immense number of desquamated cells from the mucous membrane of the gall bladder, also colored blood corpuscles and masses of hematin. Mucous membrane of gall bladder greatly injected and discolored, of a deep purplish and greenish color. When held up to the light a dense network of deep purple and black congested capillaries and blood vessels were everywhere discoverable. Solid coagulable matters in 421.4 grains of bile, grains 77.4; solid matters in 1,000 parts of bile, 183.67. The contents of the gall bladder were so thick and tenacious that it was impossible to introduce them into the ordinary specific gravity bottle.

It is evident that hemorrhage had taken place into the gall bladder. Stomach distended with black vomit, resembling dark fluid blood; the intestines also contained much black vomit, of a character similar to that found in the stomach. The great de-

pression of temperature, about 4 degrees F. below the normal standard, which characterized the last twenty-four hours of life may have been due to the profuse hemorrhage into the stomach and bowels. Under the microscope the black vomit from the stomach presented nothing more than mucus corpuscles, desquamated cells from the gastric mucous membrane, broken capillaries, and immense numbers of colored blood corpuscles. I observed no vegetable nor animal organisms. Their absence appeared to be due chiefly to the depressed temperature of the surrounding atmosphere. Kidneys engorged with blood; when divided and washed, they presented a yellow color like that of the liver. Weight, seven and one-eighth ounces. Chemic analysis showed a great increase of oil in the structures of the kidneys, as well as of the heart and liver. When sections of the kidneys were made with Valentin's knife and carefully examined under the microscope, the Malpighian corpuscles and tubuli uriniferi were found to be impacted (literally stuffed) with detached cells, oil globules and yellow granular matter. The urinary bladder contained only two fluid drachms of urine, which represented the whole amount of urine excreted by the patient, during the last twenty-four hours of life. The urine contained albumin and numerous casts of the tubuli uriniferi, filled with yellow granular matter and oil globules, also cells from the pelvis and ureter, and from the mucous membrane of the bladder. The urine contained, also, little or no bile and presented a yellowish red color.

In this case the disease was contracted at the jetties near the mouth of the Mississippi River, where fever prevailed to a limited extent among the laborers, late in the season. One or more barges upon which the workmen slept at night became infected, and it was found necessary to destroy them by fire.

(To be continued.)

SOCIETY PROCEEDINGS.

American Electro-Therapeutic Association.

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept. 25, 26, and 27, 1894.

WILLIAM J. HERDMAN, M.D., President.

(Continued from page 491.)

PROF. A. E. DOLBEAR, of Tuft's College, Boston, read a paper on

PHYSIOLOGIC EFFECT OF THE CURRENT.

In the early days of electrical applications to therapeutics no one knew what to expect. At best it was thought that electricity was a very mysterious something with limitless possibilities, but unless the patient could feel its effects it was thought nothing happened. Again, it was held that electricity was electricity, and induction coil discharges which could be felt were proper for all sorts of diseases when it could be applied. As there were no units, no one knew what or how much he was giving or taking.

The cautious physician very properly would not venture to employ an agent he knew little or nothing about, while the quack with his mysterious machine and wise look, often succeeded in inspiring his patients with confidence in himself and a high degree of expectancy which, as every physician knows, are of high therapeutic value for the larger number of ailments he is called upon to treat. He therefore sometimes surprises himself and others by his success where they had failed, and electricity got all the glory for success while the failures were never counted.

Now that one may know exactly the nature of the current he uses as well as its quantity, the successful application to physiologic purposes has begun in an intelligent way.

At the outset one has to make the inquiry whether electrical action in the body and out of it are or not radically different. Are there physiologic conditions which dominate, or is electricity in the body as well as out of it, subject only to its own laws?

The physiologists and biologists have quite given up what was called "vital force," aud stoutly maintain that in the last analysis all physiologic processes are physical and chemical. If that be granted then one may start with the assumption that the only difference in the action of electricity in a living body and out of it, are differences in the degrees of complication. I believe that it is conceded among physicians who have studied the physiologic effects of electricity that the immediate effects are altogether physical and chemical.

Assuming this to be true, one may inquire what are the physical and chemical effects of electricity, in order that he may look for them in physiologic processes.

1. A current of electricity always heats the conductor through which it goes, and this quite independent of how much work of other sorts may be done in the same circuit. Whether it be turning a motor or lighting an arc or incandescent lamp, or decomposing a chemic compound, or any other, these simply cut down the current in their circuit, and the heating power is proportional to the square of the current. So one may conclude that when an electrical current is sent through any part of the body, that part is more or less heated. With such currents as are employed in everything except perhaps in electrocution, the heating effect is so small as to be wellnigh ignorable. A current of 1 ampere in a resistance of 1 ohm will raise the temperature of a pound of water only one-hundredth of a degree in a second, but the resistance of the body is to be reckoned by thousands of ohms and the currents employed in thousandths of an ampere. A current of 10 milliampères or the hundredth of an ampere through 1 ohm would heat it only one ten-thousandth of one hundredth, or the millionth of a degree in a second, or, to state it in another way, would require nearly two weeks to heat a pound of water 1 degree.

2. A current will produce light, as is evidenced in the arc and incandescent lamps, but the light is the effect of the higher temperature, for it is the carbon raised to incandescence which is the cause of the light and as the heating effects are so minute no luminous results due to incandescence can be expected in physiologic applications. There is another kind of luminousness observed in rarified gases when alternating currents of high voltage are sent through them, but they are not observable in solids and liquids and there is no evidence that there is any corresponding physiologic effect.

3. A current may bring about chemic decomposition. A typical case of this is the decomposition of water. To effect this an electro-motive force of as much as 1½ volts is necessary, as the electro-motive reaction of water composition is 1½ volts. When a single cell such as any of the ammonium chlorid cells is employed directly for physiologic purposes, water decomposition can not be expected, but where the same cell is used with an induction coil the voltage which comes from the secondary cell with hundreds or thousands of turns may be reckoned by the hundred. In this case water would be fully decomposed at both electrodes, both oxygen and hydrogen being set free. If there were no other substance than water present, these elements would at once be re-combined so that no collection of gas would be observable, nevertheless there is every reason to believe that even here the same hydrogen and oxygen would not be combined into a given molecule, but the decomposed molecules would have changed partners. In the presence of other substances than water there is every reason to expect other combinations at both poles and what the product would be would depend upon what substances were present at the places, also their looseness of chemic structure. The substances of the electrodes themselves might be attacked as, for instance, copper or silver might be slightly oxidized and hydrogen freed or not, depending upon the quality and conditions of the adjacent molecules. The point here is that one must not assume that chemic decomposition of water does not take place because he can detect no evidence of free oxygen or hydrogen. Whenever a current can enter the body it enters it through its fluid conductors, chiefly water; dried tissues of all sorts being non-conductors.

4. An electric current will make a magnet, or rather it is a magnet itself. The current in a conductor of any kind endows the substance of the conductor for the time with all the qualities of magnetism. It possesses a so-called magnetic field with either tension concentric with it, and a magnetic needle tends to set itself at right angles to it, and this is as true for the body or part of the body through which a cur-

rent goes as it is true for a piece of copper or iron wire. If the current be a continuous one, such as one gets from a battery, the needle will indicate it by swerving from the meridian. If it be an interrupted or alternating current the needle may show no sign of movement because it takes time for it to move, and if it be solicited to move in one direction and before it has had time to turn it be solicited to move in the opposite direction, it will stand apparently still, but it would be wrong to infer that the needle was unaffected. With such small currents as are used for physiologic purposes such magnetic effects would only be observed by working with delicate needles.

The magnetic field, whatever its source, reacts in some degree upon all kinds of matter within it. Upon what we call magnetic substances such as iron, nickle and cobalt it acts to set them in positions in its own lines. All other substances are set in positions at right angles to these. These phenomena are known as para magnetic and dia magnetic phenomena. Excepting iron and nickle, these effects are weak with ordinary currents and at ordinary temperatures, but they are exalted at low temperatures. What I would emphasize is, that in a magnetic field, all kinds of molecules are acted upon by a pressure tending to twist them into new positions, and this must be true in the body of a living thing as it is for things external to it. If on account of opposite pressures a given body does not move at all, then is it subject to what in mechanics is called a strain. Its form has been more or less distorted. As I am not now concerned with amounts of distortion or changes in position, it does not matter whether the actual quantity be of one value or another. By coiling a wire through which an electric current flows, the magnetic field of a greater length is concentrated within it and the effects are correspondingly increased, but they differ only in degree from that shown by any part of the circuit. With a constant current from any source to provide a magnetic field, with or without coiling the conductor, or with a permanent magnet of any form, the field is a constant stress and acts upon all bodies in it in some degree. As doubtless you are all aware, there have been many attempts to discover this field by sensation. Lord Kelvin tried it years ago and expressed some surprise that there did not appear to be a magnetic sense.

Peterson and Kennelly have more recently tried it with exceedingly strong fields and they have concluded that "the human organism is in no wise appreciably affected by the most powerful magnets known to science."

As to such conclusions, I would suggest that the explanation of the failures to perceive any effects might be attributable to two causes:

1. A magnetic field acts upon molecules, not upon physiologic organs as such. There is no tendency to twist, warp or strain a muscle as such, and hence sensory nerves for muscular movement would have nothing to report.

2. A constant stress of light value does not give rise to sensation for ordinary mechanical causes. Lay the arm carelessly and without looking at it, on the table where it can be comfortable and for a short time turn the attention to other matters. Then without looking at the arm or moving it in any way, see if you can tell how the fingers are crooked, or which ones touch the surface of the table. Not until some muscles be moved can one tell what shape his hand is in and yet it has been subject to constant pressure all the time. For this reason then, that a constant pressure producing no movement ought not to be expected to give a perception, I am not surprised at the results reached.

3. A magnetic field, whether constant or varied, has no chemic effect. It does not bring atomic changes. Such changes require energy of a different sort, and any nerves whose function it was to respond to chemic changes would not find anything to report from a magnetic fieid.

As for the brain itself which has been exposed to the strongest available magnetic field for considerable lengths of time with no results noted, I would ask why one should expect sensory results from an organ which is itself not sensitive? Can not the brain itself be dipped out with a spoon without sensation? Sensation implies nerves, and particular sensations particular nerves, and there are no substitutions. Neither the white nor the gray matter possesses nerve cells. If the brain were affected by a magnetic field, I should expect it would need to be detected by other means than by the direct sensation. I therefore conclude that the experiments alluded to, prove that magnetic effects do not produce the mechanical and chemical changes necessary for sensation, rather than they are absolutely without any effect. This latter conclusion, if adopted, would at once demand the acceptance of the proposition that electrical effects are not the same within the body as they are without, and that would necessitate in physiology the revival of a vital force or something like tt.

4. An electric current in a given conductor induces another electric current in an adjacent conductor. It does this by virtue of the magnetic field which it forms about itself and a moving magnetic field, however originated, acts in the same way, to set up an electric current in neighboring conductors. The so-called induced current lasts no longer than the field, is changing in strength, and quite stops when the field no longer changes, no matter how strong the latter may be. Hence it is possible to set up electric currents in any conducting body without having any electrical conductor between it and a primary source of electricity. This is the principle employed in telegraphing without wires between two points. Whether such a method has any physiologic importance I do not know, but I should think it might sometimes, where currents of particular frequencies or character are desirable and not so easily to be had with an electro-magnetic breaker as in the ordinary induction coil. In another way it has some theoretical interest. It has been reported that anesthesia may be brought about by subjecting a part of the body, a finger for instance, to an alternating magnetic field. This, observe, is not sensation but the absence of it; there is nothing in the reports of the experiments with magnetic fields to show that tests of sensitivity were tried; they were probably not tried in any.

Now, I believe it has been demonstrated that alternating electrical currents at some unsettled but very high rate of alternations can for the time being destroy sensation, so that I say a tooth may be pulled without pain. If there be nerves of sensation in an alternating magnetic field, and they be made a part of an electric circuit as they very well may be made, then changes of magnetic polarity may bring about current changes in the organism and these may have any of the results that belong to currents, and if currents under any conditions will produce insensibility then the effects between magnetic poles will be due, not to the magnetism itself, but to the currents of electricity which the magnetism induces.

I have heard it objected to the view that magnetic fields could produce any physiologic effects that, if so, those who work with alternating currents of electricity and especially such as are near dynamos and motors would have noticed it, yet none have ever reported it. If, however, the real effect was one to lessen their sensitivity in general, one would hardly expect one to know anything about what had happened without comparisons. Experiments need to be made for all the nerves. Can one see or hear or taste or smell or touch as acutely in such a varying magnetic field or with alternating currents as he can without them?

If there is anything at all in this anesthesia by currents without bringing on tetanus, I should suppose it would have a wonderful field. For instance, in seasickness there could be found a current of some degree and frequency that would be quite insensible to the feelings, which would prevent at once the nervous condition, and an electrical device could be worn continuously on shipboard without discommoding one. The chief difficulty, I should suppose, would be to find the proper route for the provided current. If, for instance, the immediate cause of seasickness be, as I have somewhere read, the movements of the fluid in the semi-circular canals, then electrodes might need to be fixed in the ears.

Then again, it is now well known that electric currents are generated in the body by the contraction of muscles as well as well as by chemic action wherever these may take place. These currents are exceedingly weak, too weak to be able to do any of the wonderful things that are alleged to be due to them by so-called "magnetic" healers. It requires the most delicate apparatus we have to detect them at all, nevertheless, an electric current always has direction and a conducting circuit. The query is, Which are the conductors in the body? The nerves have often been compared to conductors and some have thought that the impulses in them called "nervous transmission" were electric currents; on the other hand, the measure of the rate of impulse has been found to be so low—less than a hundred feet a second—that some have concluded that such nervous current could not possibly be electrical, inasmuch as the velocity of electricity is reckoned to be so great. This has never seemed to me to be conclusive. The old experiments on the velocity of electricity did not measure that at all. They at best indicated the rate of flow of a certain amount of electrical energy, which is a different problem. If a conductor be a poor one it may take a good while to get enough electricity through it to produce any observable result, and that I think, is the

case with the electric conductivity of a nerve. Aside from the nerves, there are the blood vessels filled with good conducting materials, muscular tissue of various kinds not so good, and fatty tissue almost non-conducting, so that what will be the route of an electric current between two points in the body, may not be the same in different persons. I should expect that a given current would be much the densest in a lean or muscular person and much scattered by adipose tissue; even a large surface electrode of a square foot which will carry a current of 22 milliampères without injury to the surface itself might, on account of the slight conductivity of the underlying tissues, be made destructively dense in some portion of its course. I can not give an example but think it probable.

And last, but not least, what may be said of electricity as a curative agent? If one can not give a technically correct description of electricity itself yet this we do know, that an electric current is the bearer of energy in such a form as to be readily available for mechanical, chemical or magnetic effects, and which of these will be the result depends altogether upon what kind of mechanism is provided for it. Inherently, electricity has neither curative nor destructive qualities. I do not think there is any evidence that it attacks life or that in any sense it is life, as some have thought. One might as well say that heat is life or chemism is life. Electricity has directly to do with molecules and atoms. It can shake molecules apart and permit new molecular arrangements. If these new products chance to be useful or harmful to the organism it will be benefited or injured. The particular advantage, which is a very great one, is these products may be produced where they are wanted. This is now practically applied in electrolytic and catalytic adaptations. Its electro-tonic action may be due more to the electrolytic products at nerve terminals than to their direct excitation. Considering a nerve as a conductor, its quality does not depend upon its conductivity but its conductivity depends upon its quality. It is not quite as probable that if for any reason nerve action is judged to be slothful it is due to the fact there is nothing to conduct, that is, the metabolic changes at the nerve terminals are not rapid enough, as that the trouble is due to the nerve itself? This supposes the nerve to be intact.

I can not forbear to allude to a matter of high theoretical interest directly related to electro-therapeutics. Since it has been practically demonstrated that what we call light is a set of ether waves of electro-magnetic origin, it has been apparent to some, though others have not seen the significance of the work, that we are compelled to postulate that all atoms are magnets, seeing that all can and do give electro-magnetic waves. There was a good deal of reason for thinking so before. This new evidence seems to compel one to assume it. Hence, on this assumption, it follows that the living body is but a combination of an enormous number of atomic magnets. I use the term atomic advisedly, for molecules are but combinations of atoms, and their properties are only the resultant properties of the atoms that make them up. Every movement of every molecule and atom in the body is, then, a magnetic movement in magnetic fields and must induce magnetic and electric changes all about it. It was long ago shown by Faraday that electric and chemic changes were quantitatively related. Now it is seen that electro-magnetism underlies all chemic action. The significance of it here lies in the fact that in working with electricity to effect physiologic changes one is really at work with the fundamental factor in physiologic energy. Not in a roundabout but in the most direct way.

Functions of all sorts are electro-magnetic in the last analysis, and he who understands these and the art of properly applying electro-magnetic energy to languishing or diseased organs will be able to do all for humanity that skill can do. The more I study the relation of life to the things upon which it depends, the more I am persuaded that though death may be for the benefit of the race, it is not necessary for the individual.

DISCUSSION.

DR. J. H. KELLOGG said that the paper was very suggestive for future research, but as the ideas presented were largely theoretical, we should, before accepting them as facts, supplement them with physiologic and other experiments. Some experiments that had been made showed that muscles were electrical accumulators—they could be charged by contact and discharged by contact or induction. If these experiments were confirmed they would go far toward corroborating the statements made in the paper.

DR. MORTON said he would like some further light in regard to the electro-magnetic molecule. Did the author mean by that the chemic affinities which were taking place and which constituted the sum total of life, or did he mean that we should consider each molecule as showing a certain amount of polarity, and yet not necessarily associated with chemic affinity?

PROFESSOR DOLBEAR said that in his paper he had asserted that we had been compelled to assume that atoms and molecules were magnets, and that there was a good reason for thinking so before the experiments by Maxwell and others had forced this conclusion upon us. All were probably familiar with the experiments that had been made recently regarding the conductivity and magnetic changes. At absolute zero the conductivity was an infinite quantity—there was no resistance—and the graphic representation of the conductivity of the body was a straight line. At zero, the chemic affinity was at zero, hence chemic affinity would seem to be a necessary outcome of temperature. He did not understand that magnetism had necessarily anything to do with chemic affinity—he would entirely disassociate the two.

THE PRESIDENT remarked that though many of the statements in the paper had been characterized as theoretical, they were largely founded on physiologic facts.

(To be continued.)

SELECTIONS.

Non-Surgical Treatment of Hemorrhoids.—The *Gazette des Hôpitaux* lays down the following indications of hemorrhoids which should not be operated on: 1. Symptomatic hemorrhoids, sometimes due to stricture or cancer of the rectum, to affections of the prostate, bladder or urethra; sometimes they are caused by a gravid uterus, a fibro-myoma or an ovarian cyst pressing on the pelvic veins; again, they may result from cirrhosis of the liver. In all these cases the primary cause should be treated; an operation is at least useless if not dangerous; 2. Hemorrhoids without any important symptom. Some patients experience neither uneasiness, pain nor hemorrhage. They are obliged to watch the condition of their bowels, but are not otherwise incommoded; 3. The most important class for non interference with the knife is the prolapsed, strangulated or prolapsed. These are really cases of infectious phlebitis and an operation is not without danger. In all cases the patient should adopt certain prophylactic measures. All irritation of the anal region should be avoided; constipation, with a large hard stool, should be controlled by appropriate diet, the use of laxatives, etc.; the bowels should be moved as nearly as possible at a certain hour so as to induce regularity and should be followed by ablutions of warm water, either plain or borated. Injections of boric acid are recommended as controlling congestion as well as facilitating defecation. If small bleedings occur it will be useful to give large injections of water at 40 to 45 degrees and local applications of sponges or tampons of water at 50 degrees. If the congestion is prolonged, if there is inflammation and danger of gangrene, hot applications are indicated, but it will be found well to employ certain topical agents—either calomel or tampons saturated with glycerin 35 grams, iodin 20 centigrams to 1 gram, iodid of potassium 2-5 grams. The applications are slightly painful and it is best to begin with the smaller proportion of iodin. The use of soothing ointments is often indispensable—the old-fashioned poplar ointment answers very well. It can be associated advantageously with belladonna and antipyrin—*e. g.*, poplar ointment 30 grams, antipyrin 2 grams, extract of belladonna 1 gram. Irrigations with laudanum or antipyrin also give excellent results. The oozing and irritation which often complicate external hemorrhoids usually cease with cleanliness and the use of boric acid solutions. It may be well to use between the irrigations a pad of cotton impregnated with borated vaselin or to powder the part with some inert absorbent powder, such as subnitrate of bismuth.

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SATURDAY, APRIL 6, 1895.

DAMAGED BY FIRE.

March 31, being Sunday, the employees of this office were enjoying that rest which all good people enjoy on that day. It so happened that in the afternoon MR. R. A. HAMILTON went to the JOURNAL office on an errand for the Editor. He was in the office a few minutes, found the papers of which he was in search, closed the iron door, and started home; going down the stairway he smelled smoke, and he looked carefully on each landing as he passed, finding the smoke grow thicker, and on reaching the first floor found the stairs themselves on fire. He ran to the basement, called the engineer of the building and had the alarm sounded. In four or five minutes the entire hallway and stairs were wrapped in flames, and sheets of fire rushed out of the windows.

The insurance patrol responded quickly, and in less than six minutes from the time of sounding the alarm, the JOURNAL presses, the machinery and type were covered with tarpaulins. The fire engines were playing on the fire in the hallway in about ten or twelve minutes.

Two of the Trustees and the Editor arrived in about an hour to find the fire practically extinguished but the office was flooded with water; the desks and movable furniture about six to eight inches deep in water, much type "pied" and manuscripts water-soaked.

The JOURNAL, nevertheless, appears on time, the loss is nearly covered by insurance, and our members may well be thankful that the situation is no worse. Our employees have been obliged to work in a room without heat, and in much discomfort. But for the timely discovery of the fire the loss would have been complete.

This is the second time the JOURNAL has suffered by fire. The printing firm of BLAKELY & ROGERS had in 1888 the contract for press work, and a fire broke out which caused serious damage. On that occasion the forms were destroyed and only a portion of the paper could be made ready in time for the weekly issue.

THE NEW YORK COUNTY INSANE AND EPILEPTICS.

The pauper insane of any locality would seem to have a poor outlook, when those whose duty it is to advocate their interests sneer at others who volunteer on behalf of those interests. The State Charities Aid Association, now in its twenty-third year of proposed support of the charitable operations of the State of New York, has apparently adopted the rôle of apologists to those who run the institutions of the metropolitan city. In its last annual report the "whitewash" is applied as follows: "It would be useless to repeat *facts* which have been dinned into the ears of the public for several months past with regard to the many deficiencies of our city asylums." The fact that the charitable and correctional institutions are under one commission is adduced as one of the reasons why these facts exist, when the truth is that in years gone by the one commission, when in the hands of other men, conducted wellnigh faultlessly the affairs of both the sick and the criminal. The inference is that the men who get appointed to the commission are not large enough for their work, or are giving their time to less important matters; they should be divorced from ward politics and be required to personally visit the institutions under their charge. The Annual Report, from which the above is quoted, adverts to the progress that has been made toward the establishment of a colony for epileptics. It thus refers to the philanthropist, after whom the colony will be named:

"The late President, of your Board, MR. OSCAR CRAIG, died on Jan. 2, 1894. MR. CRAIG was not a member of this Association, he was not a resident of this city, but he used his high and honored official position to strengthen the hands of all who are striving to raise the down-trodden and succor the helpless. For this is what he did himself. The insane, the prisoner, the poor epileptic found in him a friend, ready at all times to do battle in their behalf with voice and pen. Strong in his singleness of purpose, his great moral courage and extraordinary industry; gentle, because so strong; just, because so true; these qualities made MR. CRAIG a power for

good. He was the firm friend of this Association, using his great influence to promote our reform measures, however unpopular, when once satisfied they were beneficent of purpose and sound in principle. Nor did he ever lose an opportunity of bearing public testimony to the value of organized volunteer aid united with official service, illustrating it by the work of this Association in connection with that of his own Board. The last occasion on which MR. CRAIG addressed a public audience was in Chicago, at a Congress of the World's Fair, and the last words uttered by him there were to urge the formation of State Charities Aid Associations in every large State in the Union.

MR. CRAIG did not live to see established the State Colony for Epileptics, to which he had given so much time and thought. As Chairman of the Committee of your Board which selected the site, as author of the bill of the Association, introduced in 1893, and as one of its most earnest supporters in the Legislature, he was so identified with this great reform that when our bill to establish the Colony was introduced a second time, in 1894, a few weeks only after MR. CRAIG's death, we gratefully paid him the highest honor in our gift by naming after him the State Colony for Epileptics. That the original suggestion should have come from the Governor of the State is an additional tribute to MR. CRAIG."

THE CRIMINAL USE OF CHLORAL.

This JOURNAL has from time to time adverted on the necessity for some general legislation to prevent criminals from purchasing deadly drugs, and recently the use of chloral by criminals for criminal ends has been made the subject of an investigation by the captain of that notorious New York precinct called "the Tenderloin." Having been informed that the so-called "knockout drops," that have the name of completing the work of alcohol in the operations of thieves who desire to stupefy and afterward clean out their partially intoxicated victims, contain chloral, CAPTAIN PICKETT has sent out a detective to investigate the sale of chloral and other stupefying drugs. He has found that it is altogether too easy to purchase chloral at the drug stores. He is inclined to regard the law relating to the purchase and possession of poisons, as weak and not up to date, for the reason that it does not provide for the detention or punishment of persons having the "knockout drops" in their possession, who may have been arrested on suspicion. He states that the offense is grave enough to make it a felony to the person on whom is found the drug for any unlawful purpose. The druggists who sold chloral indiscriminately to the detective will be prosecuted. A case of death has recently been held to be referable to these "knockout drops."

TO CHAIRMEN AND SECRETARIES OF SECTIONS.

Section officers are respectfully requested to send their completed program to the JOURNAL at the earliest practicable date, and no later than April 17. The program will hereafter be printed in the JOURNAL office, and it will appear in full in the JOURNAL of April 20.

PHOTOGRAPHS OF MEMBERS.

We have received a great many photographs of the members of the ASSOCIATION, but nevertheless a very small percentage of the whole membership. We wish to have the collection as complete as possible, and therefore respectfully request those who have not done so to send their picture by return mail.

Do not forget the JOURNAL SPECIAL TRAIN leaving Chicago Sunday, May 5, from Pennsylvania depot, 3:15 P.M. Write for space desired.

BOOK NOTICES.

A Course of Elementary Practical Bacteriology, including Bacteriologic Analysis and Chemistry. By A. A. KANTHACK, M.D., M.R.C.P. and J. H. DRYSDALE, M.B. M.R.C.P. Pp. 181. London and New York: Macmillan & Co. 1895.

This manual is a hand-book for the bacteriologic laboratory written by practical workers. The matter is logically arranged, and carefully pruned of unnecessary words. Each subject is made easy by every detail being explained; no step of any ordinary procedure is left in the dark. There are three parts: Part I is on General Bacteriology (16 lessons); Part II, Bacteriologic Analysis (12 lessons); Part III, Bacteriologic Chemistry.

We commend this laboratory guide to practical students in the highest terms.

E. Brissaud, Lecons sur les Nerveuses (Saltpetriere 1893-1894) recuellies et publices. Par HENRY MIEGS, avec 240 figures (schémas et photographies). Paris: G. Masson, 1895. Pp. 644.

On the death of the lamented Charcot, M. Brissaud was called to occupy provisionally the Chair made famous by the great master.

There are thirty lectures in this volume, of the seventy lectures of the course, which are carefully prepared, and very interesting. Of these lectures the first is devoted to a eulogy of Charcot, touching in its tenderness, and broad in its understanding. The other chapters are I to II, Charcot's Disease. (Lateral amyotrophic sclerosis); III to IV, Friedreich's Disease (cerebellar hereditary ataxia); V, Paraplegia Ataxo-spasmodic and Tabes Combined; VI, Little's Disease and Dorsal Spasmodic Tabes; VII, Paraplegias of Potts' Disease. Prognosis and Surgical Treatment; VIII, Hematomyelia and Sudden Paraplegias; IX, The Reciprocal Relations of Hypertrophic Cervical Pachymeningitis and Syringomyelia; X, Syringomyelia, Histology, Metamerism of the Sensory Centers; XI, Spinal Syphilis; XII, Spinal Hemiparaplegia with crossed Hemianesthesia, Syndrome of Brown-Séquard; XIII, On the Abolition of the Muscular Sense and on the Sign of Romberg; XIV, Tabetic Arthropathies and Sensory Troubles; XV, Trophic and Sensory Disturbances; XVI, Exterior forms of Myopathy; XVII, Ophthalmoplegia in General; XVIII, Orbital and Subpeduncular Ophthalmoplegia; XIX, Intrapeduncular and Nuclear Ophthalmoplegia; XX, Neuritic Ophthalmoplegia and Neuritic Muscular Atrophy; XXI, Spasmodic Laughing and Crying; XXII and XXIII, Pathology and Symptoms of Parkinson's Disease; XXIV, Tics and Clonic Spasms of the Face; XXV, On Aphasia of Articulation and of Intonation, in connection with a Case of Cortical Motor Aphasia without Agraphia;

XXVI, Sensory Disturbances in Hemiplegia of Cortical Origin; XXVII, Syndrome Cerebellar; XXVIII and XXIX, Basedow's Disease—Exothyropexy; XXX, Myxœdema, Cretinism and Infantilism.

The profound scholarship and vast experience displayed in these lectures not only prove that M. Brissaud is not unworthy to succeed Charcot, but that he is able, eloquent and conscientious. No more interesting lectures have ever been written on this subject, than those in the volume of M. Brissaud. We have to thank him for one of the most instructive and entertaining books of the year.

PUBLIC HEALTH.

Obligatory Vaccination Abolished.—Obligatory vaccination is to cease in the Canton of Berne, Switzerland. An election just held showed that the anti-vaccinists cast 26,238 votes against 24,543 by their opponents.

Vanillism.—M. Guerin, Officer of Health for the Colonies, reports—*Rev. Int. Med. Prat.*—that since the researches of Layet, two sorts of vanillism are recognized—the alimentary, with choleriform symptoms produced by eating vanilla ices; and the professional. The latter is due to the odoriferous principle of vanilla, or vanillin, and may give rise to cutaneous symptoms—pruriginous exanthemata, with coryza and blepharitis,—or to nervous symptoms—cephalalgia, vertigo, muscular pains, genesic excitation, etc. The author thinks that the vanilla factories should be under governmental supervision, both as to the hygiene of the factories and as to the selection of the workmen.

State Supply of Diphtheria-Antitoxin.—Under date of March 25, the Massachusetts State Board of Health announces that it has prepared a supply of antitoxin for the benefit, primarily, of such communities in the State as find it difficult or impracticable for any reason to supply themselves with the new agent from reliable sources. The Board does not propose to offer it for sale, but its gratuitous distribution will be under strict surveillance, designed to prevent waste and produce the most beneficial results. There is also pending a bill in the Illinois State Legislature providing for an appropriation of $25,000 to enable the State Board of Health to engage in the production of the antitoxin. Until each State is prepared to supply guaranteed vaccine—an agent whose value has been proved by almost a century's experience—it is doubtful how far this new departure may wisely be carried. The JOURNAL is quite clear, however, as to the propriety and wisdom of State supervision over the production and distribution of both these agents.

High February Death Rate.—There was a phenomenal increase in mortality from acute lung diseases in many sections of the country during the month of February, 1895, as compared with the mortality from the same diseases for the corresponding month of 1894. In Chicago there were 444 deaths from pneumonia, 226 from bronchitis and 61 from influenza as against 118, 74 and 7 for the previous year; the totals for the group were 731 and 199 respectively—an increase of more than 267 per cent. February, 1895. The Bulletin of the New York State Board of Health also shows an increase, but not so marked, for that State. There were 10,751 deaths reported during the month, which is about 1,400 more deaths than occurred in the same month in 1894; an increase of about 15 per cent. The Bulletin shows that the febrile or zymotic diseases have lower death rates except whooping cough and typhoid fever; the increase of the latter disease being confined to the Hudson Valley districts, where there was an unseasonable prevalence, especially in Albany. Smallpox caused 5 deaths—52 in February, 1894—4 in New York and 1 in Brooklyn; it does not exist in the State outside of the metropolis. Consumption caused 1,150 deaths, which is excessive for the month and is due to the influenza epidemic which has increased its mortality.

Morbidity in Austro-Hungary.—From official figures just published, the *Bulletin Medical* is able to give details of the infectious diseases in Austro-Hungary in 1892 and 1893. Variola has become rarer; the number of cases is 60 per cent. less than in 1889, when they numbered more than 50,000; the deaths decreased from 8,385 to 3,735—or more than 50 per cent. This good result is due to more frequent vaccinations and re-vaccinations. The mortality for vaccinated patients with variola was one-half of 1 per cent. per 1000 of the population; for non-vaccinated one-third. Scarlatina has since then increased and the same is true of diphtheritic croup. Measles is a little less common and seems more benign. Typhoid fever is more common, or perhaps it is reported more often; it causes about 15 per cent. of the morbidity. Typhus and dysentery have become rare. Puerperal fever is more frequent and has been fatal in more than half the cases reported. The same official report shows that at the end of 1893 there were in the Empire 6,728 physicians, 1,421 surgeons and 8,149 other persons engaged in the healing art. The number of physicians increased 163 and the number of surgeons decreased 111 from the figures of the preceding year. The number of midwives is increasing. At the end of the year mentioned there were 17,810 engaged in practice.

Condensed Milk.—It is decidedly refreshing in these days of sanitary scares and sensations to meet with such a common-sense and encouraging utterance as that of Prof. Albert Leeds, chemist of the Stevens Institute of Technology, on the subject of condensed milk. In consequence of sundry sensational newspaper items on the subject, published last summer, the Professor was requested by the New Jersey State Board of Health, and by some local boards, to investigate the various brands—some fifteen in all—of condensed milk in the market, and his report is now made public in the current number of the *American Journal of the Medical Sciences*. As was to be expected, some of the specimens were condemned—more particularly those which had undergone changes due to specific bacterial ferments getting into the milk before the process of condensation. But instead of making these the theme of a general hysterical condemnation of all condensed milk, the analyst sensibly points out that the interests of the public coincide with those of the manufacturers in most respects, and that, apart from the propriety of its use for infant nutrition, much can be said in praise of the great value of condensed milk as a manufactured product. He says that it would be a great loss to the canners were they to use or purchase watered milk, since the chief expense of the condensation is in the evaporation of the water; and dairymen dishonest enough to water milk are those most likely to have impure wells, improper food and unclean surroundings. Not from added water, but from water used in washing utensils is danger to be dreaded, and the same remark is true of the original milk itself. It is out of the question, Professor Leeds says, for a canner to employ a bacteriologist to examine the milk used, and the hardening and putrefactive changes which the condensed milk sometimes undergoes are usually due to failures in cleanliness, etc., at the dairy. Later on the canner will participate with the public in the great benefits of a rigid system of inspection that will, first of all, begin with the dairy and the cattle themselves. The JOURNAL is aware that, as a result of municipal milk inspection in many large cities, the dealers themselves are the most efficient agents in keeping the producer up to the mark. They not alone have frequent

analysis of their supplies made by the municipal analysts, but many dealers employ appliances for milk analysis in their own depots, and are thus enabled to detect promptly the grosser forms of adulteration and to locate the responsibility.

Health Reports.—Sanitary reports received by the Supervising Surgeon-General of the Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Illinois: Chicago, month of February, 95 cases, 29 deaths; March 1 to 27, 67 cases, 31 deaths.

Kentucky: Paducah, March 24, 1 case of smallpox taken from Str. *Joe Fowler*, from Evansville, Ky.

Michigan: Watson Township, March 13, 1 case; Ypsilanti, March 13, 1 case.

New Jersey: Jersey City, March 27, 1 case.

Pennsylvania: Pittsburg, March 27, 1 case taken from cars en route from Cincinnati to Baltimore.

Tennessee: Memphis, March 24, 1 case reported at the U. S. Marine-Hospital.

West Virginia: Wheeling, March 27, 2 cases.

SMALLPOX—FOREIGN.

Arabia: Aden, February 9 to 23, 6 cases, 1 death.

Belgium: Brussels, March 2 to 9, 2 deaths.

Brazil: Rio de Janeiro, February 23 to March 2, 5 deaths.

Cuba: Havana, March 1 to 27, 1 death.

Egypt: Alexandria, February 19 to 25, 1 death.

England: Leeds, March 9 to 16, 2 cases.

India: Calcutta, February 9 to 16, 73 deaths.

Italy: Trapani, under date of March 8, 1895, the United States Consul at Palermo, reported an outbreak of smallpox at Trapani.

Mexico: Nogales, March 16 to 23, 2 cases.

Netherlands: Rotterdam, March 9 to 16, 10 cases, 4 deaths.

Russia: Batoom, February 26 to March 5, 8 cases, 4 deaths; Odessa, March 2 to 9, 3 cases, 2 deaths.

Switzerland: Basel, March 2 to 9, 7 cases.

Uruguay: Montevideo, January 12 to 23, 7 cases.

CHOLERA—FOREIGN.

India: Calcutta, February 9 to 16, 39 deaths; Madras, February 15 to 22, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, February 23 to March 2, 8 deaths.

Cuba: Havana, March 14 to 21, 5 cases, 1 death.

Mexico: Vera Cruz, March 14 to 21, 1 death.

RIO DE JANEIRO, March 5, 1895.

I have the honor to transmit report for week ended March 2, 1895.

There were 19 deaths from accesso pernicioso, an increase of 14; 8 from yellow fever, the same as in the foregoing week; 5 from smallpox, a decrease of 2; 7 from beriberi, none in the last week; 1 from enteric fever, a decrease of 4; none from cholera, 1 in the previous week; 7 from diarrhea, suspected to be cholera, as against 3 in the former week, which were given with various equivalent names. There were 335 deaths from all causes, being an increase of 39, and the largest number during any week in this season. This was to be expected, as we are just at the time of greatest mortality of the year, and when there is an epidemic of yellow fever it is always at its greatest in the first week in March.

Yellow fever: I think we may safely consider that there will be no epidemic of this disease this year, as the cool season is very near, and whenever there has been no great number of cases of this disease up to this time, it has never appeared to any great extent.

Cholera: I have heard of only one suspected case during the week, which was removed to Jurijuba Bay, and the usual disinfection practiced. Along the line of the Parahyba River to its mouth a little beyond Campos, the disease appears to be finishing. In the city of Campos they say it is extinct. But it has appeared in some intensity to the north of that river in the State of Espirito Santo, and is moving slowly northward. In Cachoeiva in this State, from February 24 to March 3, there were 40 cases, 21 deaths. In the village of Itapemerim there were 50 cases and only 2 deaths in the same time. The reports of 20 cases in the hospital of the Insane Asylum here in Rio de Janeiro were false, as I was informed by Dr. Carvalto Bulhões of the Health Department of the Government.

Beriberi: This disease always appears more or less toward the end of summer, which may account for the 7 deaths from it during the week.

Smallpox: This disease is continuing, though in small number, during the whole summer, an unusual occurrence; I hope it does not foreshadow an epidemic during the approaching winter season.

R. CLEARY, M.D., Sanitary Inspector, M-H. S.

ASSOCIATION NEWS.

The Baltimore Meeting.

EXCURSION TO GETTYSBURG BATTLEFIELD AND PEN MAR.

In compliance with a widely-expressed desire on the part of members of the ASSOCIATION to visit the historic battle ground of Gettysburg, the Committee on Transportation has arranged for a special excursion train to that place on the fourth day of the meeting of the ASSOCIATION. The Western Maryland Railroad will furnish a fast express train for this excursion at the rate of $1 per passenger, provided 150 persons desire to take the trip. Notice should be given at the registration office on the first day of the session.

GEORGE H. ROHE, Assistant Secretary.

American Medical Association—Section on Dermatology and Syphilography.—Address of the Chairman, Alfred E. Regensburger, San Francisco, Cal.

"The Human Epitrichium and its Relations to some Congenital Skin Diseases," (also specimens) by A. H. Ohmann-Dumesnil, St. Louis, Mo.

Exhibition of Protozoa in three cases of Skin Disease, by T. E. Gilchrist, Baltimore, Md.

First Symposium, Diagnosis and Treatment of Sycosis—Differential Diagnosis, Pathology, Local and Internal Treatment, by L. Duncan Bulkley, New York City.

Adenoma Sebaceum, by W. E. Maxwell, Portland, Oregon.

Keloids, by A. Ravogli, Cincinnati, Ohio.

The Identity of Lupus Vulgaris and Erythematous, by Alfred E. Regensburger, San Francisco, Cal.

Lupus, treated by Galvanism (illustrated by photographs) by Merrill B. Ricketts, Cincinnati, Ohio.

Report of about twenty cases on the Pathology of Herpes Zoster, by T. E. Gilchrist, Baltimore, Md.

Clinical Notes on Herpes Zoster, by W. F. Breakey, Ann Arbor, Mich.

Syphilis—the Dangers of and how to avoid Them, by A. S. Garnett, Hot Springs, Ark.

Syphilis of the Pharynx, by A. Ravogli, Cincinnati, Ohio.

Four Recent Cases of Extra-Genital Syphilis in Private Practice, by L. Duncan Bulkley, New York City.

Syphilitic Specific Ulceration of the Rectum, by James P. Tuttle, New York City.

Cerebral Syphilis, by Frank P. Norbury, Jacksonville, Ill.

Conceptional Syphilis, by David H. Rand, Portland, Oregon.

Syphilis and Gonorrhea as an Etiologic Factor in Diseases of Women, by H. R. Holmes, Portland, Oregon.

Hereditary Syphilis, by G. S. Stein, Columbus, Ohio.

Early Constitutional Treatment of Syphilis, and a few remarks on Local Treatment of Primary Stage, by W. F. Breakey, Ann Arbor, Mich.

Those who have promised papers, but subjects not named are, Drs. Edward Martin, Philadelphia, Pa; James Nevins Hyde, Chicago, Ill.; James E. White, Boston, Mass.; W. A. Hardaway, St. Louis, Mo.; R. W. Bishop, Chicago, Ill.; W. T. Corlett, Cleveland, Ohio, and Louis Frank, Milwaukee, Wis.

Alfred E. Regensburger, San Francisco, Chairman; David H. Rand, Portland, Oregon, Secretary. Executive Committee: L. Duncan Bulkley, New York; Louis A. Duhring, Philadelphia, Pa.; A. H. Ohmann-Dumesnil, St. Louis.

DAVID H. RAND, Secretary, Portland, Oregon.

SOCIETY NEWS.

Medical Association of Missouri.—The thirty-eighth annual session of the Medical Association of Missouri will be held in Hannibal, beginning Tuesday, May 21, and continuing three days. In order that the program may be arranged and printed and distributed throughout the State a week or

ten days before the meeting, we ask and insist that you send the title of your paper to John H. Duncan, room 409, Union Trust Building, St. Louis, Mo., on or before May 1, 1895. Those who desire to read papers will bear in mind that the title of their paper must accompany the name of the essayist, and that they must be in the hands of the committee before May 1 in order to get a place upon the program.

J. C. MULHALL,
A. L. FULTON,
J. H. DUNCAN,
Committee on Scientific Communications.

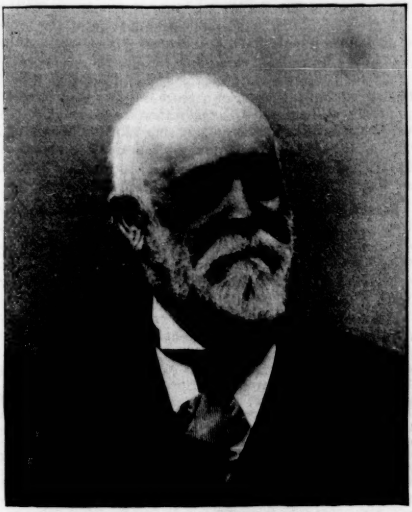
Medical Society of the State of Pennsylvania.—The forty-fifth annual meeting will be held in Chambersburg, on Tuesday, Wednesday, Thursday and Friday, May 21, 22, 23 and 24, 1895, beginning on Tuesday, May 21, at 9 A.M.

Address on Practice of Medicine, by I. C. Gable, York.
Address on Surgery, by C. L. Stevens, Athens.
Address on Obstetrics, by W. B. Ulrich, Chester.
Address on Mental Disorders, by F. X. Dercum, Philadelphia.
Address on Otology, by L. H. Taylor, Wilkes-Barre.
Address on Hygiene, by Hildegarde N. Longsdorf, Dickinson.
Report of Committee on Contagious Ophthalmia, by J. A. Lippincott, Pittsburg, Chairman.
Report of Committee on Pharmacy, by Adolph Koenig, Pittsburg, Chairman.
Report of the Legislative Committee, by I. C. Gable, York, Chairman.
Report of the Committee on Increase of Membership, by C. L. Stevens, Athens, Chairman.
Report of Committee on Rush Monument Fund, by W. Murray Weidman, Reading, Chairman.
Report from the State Board of Medical Examiners.

WM. B. ATKINSON, Permanent Secretary.

NECROLOGY.

WILLIAM S. W. RUSCHENBERGER, M.D., Medical Director on the retired list with relative rank of Commodore of the United States Navy, died at his home in Philadelphia, March 24, 1895, in the eighty-eighth year of his age. He was born in Cumberland County, New Jersey, Sept. 4, 1807. Entered the Navy as Surgeon's Mate in 1826 and the Medical Department of the University of Pennsylvania under the preceptorship of Prof. Nathaniel Chapman and J. P. Hopkinson, and received his degree in 1830. He was appointed Surgeon to the East India Squadron and served in that capacity for two years, during which time he circumnavigated the globe. He was made Superintendent of the United States Naval Hospital at Brooklyn. He is credited with organizing the first medical bureau and laboratory for supplying the Service with unadulterated drugs. He was Fleet Surgeon of the Pacific Squadron from 1847 to 1850, and of the Mediterranean Squadron from 1860 to 1861, serving between cruises at the Naval Hospital in Philadelphia. During the Civil War Dr. Ruschenberger was stationed at the Boston Navy Yard, where he rendered efficient service. After the war he returned to Philadelphia. From 1866 to the date of his retirement, Sept. 4, 1869, he was the senior officer in the Medical Corps, and March 3, 1871, he was commissioned Medical Director on the retired list, with the relative rank of Commodore. Dr. Ruschenberger has been a prominent figure in medical and scientific circles for many years. He was President of the Academy of Natural Sciences from 1869 until 1885, when he was succeeded by Prof. Joseph Leidy. He continued to serve as one of the Curators until his death. He became a Fellow of the College of Physicians in 1838, and subsequently served for several years as Secretary, and was elected President in 1879, succeeding Dr. George B. Wood, and in turn was succeeded by Dr. Alfred Stillé in 1883. He was sent as a delegate to the AMERICAN MEDICAL ASSOCIATION in 1847, at a time when the College had a representation in the National organization. He was also a member of the American Philosophical Society and of the Historical Society of Pennsylvania. As chairman of the building committee of the Academy he rendered for five years most important service in carrying out the plan for



WM. S. W. RUSCHENBERGER, M.D.

the erection of the present hall, and was one of the distinguished orators on the occasion of the laying of the corner-stone. He wrote a history of the Academy in 1852, and the report of his scientific observations on his cruises were published in popular form, among which are "Three Years in the Pacific," "A Voyage Around the World," "Elements of Natural History," "Notes and Commentaries during a Voyage to Brazil and China," "Lexicon of Terms Used in Natural History." He also wrote an obituary notice of Samuel George Norton, M.D., and other contributors to the proceedings of the organizations of which he was a highly honored member. He wrote a report on U.S. Marine-Hospitals which appears in the first volume of Transactions of this Association.

JAMES RIDLEY TAYLOR, M.D., of New York City, died March 24, aged 75 years. He was a native of Scotland, but was brought to this country at an early age. He was 54 years of age when he took his medical degree at Bellevue Hospital Medical College. He had in his first half century given rein to his talent for invention, and this in the direction of mechanical pursuits. He made a fortune in this line. Then while his two sons were qualifying themselves for practice he himself took up the study of medicine, and straightway went to the front as a surgeon. He was for six years a lecturer on clinical surgery at his alma mater. He was a member of the County Society, the Physicians Mutual Aid Association, the Medical Union, the Academy of Medicine, and of the "Old Guard" militia organization, which sent representatives at the time of interment at Woodlawn Cemetery.

MISCELLANY.

Asylums for the Inebriate Insane.—Within a very few years the inebriate-insane class in France has increased from 11 to 16 per cent., according to *L'Union Medicale*, and until recently no provision has been made for them save in the regular insane asylums. Owing to a campaign inaugurated by Dr. Magnan, of the St. Anne Asylum, and Drs. Deschamps and Dubois, Municipal Counsellors of Paris, the Council of the Seine has decided to build an asylum for the inebriate insane. It will cost $840,000, will accommodate 500 men and 200 women, and is expected to be finished in the course of the present year.

Endoscopy of the Urethra.—Grünfeld announces in the *Bulletin Medical* that endoscopic examination of the prostatic urethra reveals some peculiarities. If the instrument be introduced up to this region and the patient be asked to contract the levator ani, as at the end of defecation, it will be noticed that the posterior urethra is drawn back from six to fifteen millimeters. This facilitates examination of the verumont anum and the neighboring mucous membrane. This means of examination may be compared to that used in laryngoscopy, where the patient is told to utter sounds, so as to allow inspection of the vocal cords.

Roosevelt Hospital, New York.—The Twenty-third Annual Report is a neatly illustrated pamphlet. One of the cuts shows the new amphitheater with a surgical clinic about to take place. The death rate for 1894 was about 120 per 1,000, or deducting the cases admitted moribund, less than 90 per 1,000. The total number of days of hospital treatment was 56,500, and average per diem cost per capita $1.97, but deducting out-patient work, the in-patient cost was $1.74 per diem, of which 26 cents was for food. The number of hospital attendants was 124; average daily patient population 155; showing an apparent inflation of the paid service departments. There were ambulance calls to the number of 1,642. The accident room treatment included 5,019 cases that did not need the regular hospital ward care, but received relief without taxing the accommodations of the hospital in the regular way. This department of the work has so far increased that it is proposed to make an addition for that object and for a Nurses' Home, that should cost not less than $150,000; enlarged quarters for private patients will also enter into this plan.

Diphtheritic Conjunctivitis Treated by Serotherapy.—Dr. Jessup recently communicated a report to the Royal Ophthalmological Society of two cases of diphtheritic conjunctivitis treated by Klein's antitoxin. The first case was that of a boy, aged 19 months, with false membrane on the conjunctivæ of both eyelids of the left eye, with a patch on the uvula, swelling of the sub-parotid lymph glands and albuminuria. Three injections were made; the total quantity of the antitoxin used was three grams. The membrane disappeared in five days without leaving any trace on the conjunctivæ, though the only local application used was distilled water. In the second patient, also a boy aged 8 months, there were membranes on the palpebral conjunctivæ of both eyes, enlarged glands and a muco-purulent discharge from the nostrils. Two grams of the antitoxin were used in two injections and the false membrane disappeared in four days. Hayward examined the membranes in both cases and discovered large quantities of the Löffler bacillus. In his opinion the cure was certainly due to the antitoxin, because these cases are generally accompanied with purulent ophthalmia and ocular lesions which are very slow in healing. Coppey, of Brussels, has also reported a case in a little girl of 1 year, with severe ocular diphtheria cured in four days after one injection of Behring's serum.

The Philadelphia County Medical Society.—We print herewith a circular which is being industriously circulated by the Philadelphia County Medical Society. We make no comment on the kind of tactics which seeks to have other societies act on an *ex parte* statement; but we venture to remind our brethren in other societies that this matter is one which must be settled by the AMERICAN MEDICAL ASSOCIATION. The JOURNAL has taken no editorial part in this matter, but it can not help noticing that not the slightest commendation is given for any of the many changes that have taken place in the JOURNAL within the year, nor is any hint or suggestion given, of how the JOURNAL is to be supported if its advertising is cut off.

There are two direct mis-statements in the committee's report which we are sure they will be pleased to have corrected; one is that the decision of the Judicial Council was "not given to them or published." We notice that Dr. John B. Roberts has signed this document, and that he was also the Secretary of the Judicial Council. If he failed to notify his associates on the committee of the action of the Council, surely the JOURNAL is not to blame. In the matter of the Stock Sanatorium, that advertisement was inserted *once* by inadvertence of a clerk, and afterward suppressed. In the matter of Labordine, it will be seen by reference to its advertisement, that the *formula is published* each insertion. It is therefore not a *secret* preparation.

The present management has acted according to its best judgment for the interest of the ASSOCIATION, and as the Trustees are personally liable for the expenses of the publication (the ASSOCIATION having so far refused to become incorporated) they would naturally be much pleased to have some of the critics point out a way to support the JOURNAL. They *assume* that the critics mentioned are friends of the JOURNAL, but the evidence is not overwhelming that the persons behind the movement are not really inimical, and would not rather have it die than live. They at least are remarkably careful not to commend the JOURNAL in any way, nor have these persons ever commended it since its establishment, when the proposition of a certain Philadelphia publisher to publish the JOURNAL was rejected.

These warlike preparations seem to us altogether unnecessary. If our dear friends really wish to see the JOURNAL independent of any particular class of advertising matter, will they kindly point out the best means of supporting the JOURNAL without receipts from advertising, and exactly how much they are willing to contribute to that support? The Trustees are ready to receive suggestions on this point, as they have not up to this time quite understood how to go on building up and enlarging the JOURNAL while depriving it of the revenue accepted by other journals recognized as reputable throughout the world. The JOURNAL has in fact declined a great many of the advertisements offered, when the formula was refused.

Seriously, the question arises, Will the profession support the JOURNAL in such a step? Will they contribute more freely? These are points that any sound business committee would want to have settled before they accede to any very radical departure from existing methods that at present are universal in medical journalism.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

James C. Wilson, M.D., President; T. B. Schneideman, M.D., Secretary.

N. E. Cor. THIRTEENTH AND LOCUST STREETS, Philadelphia, Pa.

Dear Doctor:—As a member of a constituent society represented in the AMERICAN MEDICAL ASSOCIATION, your attention is asked to a matter in which every such member has a measure of personal responsibility. You will find the history and present status of the question at issue set forth in the annexed report of the delegates of the Philadelphia County Medical Society made on their return from the last meeting of the AMERICAN MEDICAL ASSOCIATION, held in San Francisco in 1894. In this connection we would call your attention to the following salient points:

1. The Code of Ethics—the moral and organic law of the AMERICAN MEDICAL ASSOCIATION—as is well known, not only prohibits physicians from employing secret nostrums, but declares that "in any way to promote the use" of such nostrums is reprehensible.

2. The advertising of such nostrums in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, which is taking place, is certainly an attempt to promote their use. The ASSOCIATION appears, therefore, at least tacitly to permit the Editor and Trustees of its official journal to transgress, in the conduct of the JOURNAL, the law laid down for our guidance as physicians.

3. The attention of the ASSOCIATION having been called to the inconsistency of its course in this regard, resolutions were unanimously adopted at the Detroit (1892) meeting, instructing the Trustees of the JOURNAL in future to respect this prohibition of the Code in the discharge of their trust.

4. Thereupon the Trustees appear to have evaded this command by adopting as their governing policy the rule "that an advertisement of a proprietary medicine shall be accepted in the discretion of the Committee when the proprietors thereof shall furnish the complete formula." The advertisement of secret nostrums in the JOURNAL continuing, the Trustees have, presumably, become accessory to the secrecy, inasmuch as complete formulæ of the preparations referred to are not published. Plainly, persistence in the present course results in an abrogation by indirection of a fundamental provision of the Code, which should either be strictly enforced or frankly repealed.

The contention of the Trustees that without the income derived from this particular class of advertisements a deficit would result, does not in any way meet the ethical issue; nor does the precedent of other journals, including the organ of the British Medical Association, furnish a justification for the course adopted.

The question under consideration is not one of money but of morals; the AMERICAN MEDICAL ASSOCIATION can not afford to sell its honor under any circumstances or for any price. But would not the apparent financial sacrifice entailed by an honest and hearty observance of the spirit and letter of the Code of Ethics in the conduct of its journal be

compensated by an increase of subscriptions thereto, brought about by higher respect and enthusiasm for it on the part of members of the constituent societies?

Do the members of your society—county or State—desire the continuance of the present policy? If not, it is hoped that the subject will be discussed by you at an early meeting, and formal action taken upon it.

Hoping to be promptly advised of your action, we remain sincerely yours,

(Signed) CHARLES H. THOMAS, M.D.,
JAMES TYSON, M.D.,
RICHARD J. PHILLIPS, M.D.,
S. SOLIS-COHEN, M.D.

Committee appointed by the Philadelphia County Medical Society to carry out the recommendation in the following report:

March 11, 1895.

Report of the Delegates Representing the Philadelphia County Medical Society in the American Medical Association.

The undersigned, delegates to the AMERICAN MEDICAL ASSOCIATION, who attended its meeting held in San Francisco, June 5 to 8, 1894, respectfully report:

The general character, attendance and work accomplished by the meeting have already been laid before the members in detail in the JOURNAL of the ASSOCIATION.

The sections on revision of the Constitution, By-laws, and Code of Ethics of the ASSOCIATION were decided adversely to any change, but are likely to be re-opened by amendments introduced at that meeting, and in this way to come before the approaching meeting of the ASSOCIATION.

In the matter of the policy of the JOURNAL with reference to objectionable advertisements, your delegates endeavored to carry out the expressed will of the Society, and believe that all was accomplished in bringing the matter to the attention of the ASSOCIATION that it was possible for so small a delegation to accomplish.

At the meeting of this Society, May 23, 1894, the following resolution was adopted:

"*Resolved*, That the Philadelphia County Medical Society instructs its delegates to San Francisco to cooperate with the delegation of the Pennsylvania State Medical Society in bringing before the Judicial Council the questions relating to the conduct of the ASSOCIATION JOURNAL, and that Dr. Edward Jackson be designated to represent this Society before the Judicial Council, with power to obtain the assistance of other members of the AMERICAN MEDICAL ASSOCIATION."

The attention of the delegates of the Medical Society of the State of Pennsylvania being called thereto, a committee to represent that Society, composed of Drs. Edward Jackson, John T. Carpenter, and Lewis H. Taylor was appointed. These delegates, representing the county and State societies, then prepared the following statement, which was submitted to the Judicial Council:

"The undersigned, appointed to represent the Medical Society of the State of Pennsylvania and the Philadelphia County Medical Society, respectfully submit to the Judicial Council of the AMERICAN MEDICAL ASSOCIATION:

"That the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION in the chapter 'Of the Duties of Physicians to Each Other and to the Profession at Large,' Article I, Section 4, declares it is 'reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines or in any way to promote the use of them.'

"That the use of such secret medicines has been promoted by their advertisement in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and that the AMERICAN MEDICAL ASSOCIATION at its meeting in 1892 adopted the following resolution:

Resolved, That the attention of the Trustees of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION be directed to the fact that the Code of Ethics prohibits all commendatory mention or advertisement of secret preparations, and that said Trustees are hereby instructed to respect said prohibition in the future conduct of the official journal of this ASSOCIATION.

"At the meeting of the ASSOCIATION in 1893 the Trustees of the JOURNAL reported that they had instructed the editor that 'when the editor is in doubt about the character of an advertisement he shall refer the same to the Committee on Advertising, and that an advertisement of a proprietary medicine shall be accepted in the discretion of the committee when the proprietors thereof shall furnish the complete formula.'"

This action led members of the ASSOCIATION to hope that such advertisements would be stopped. Nevertheless the advertisements of such secret medicines continue to be published. See advertisements in the issue of May 5, 1894, of Labordine, page ii.; Antikamnia, page iii.; Peruvena, page xxii, and others.

"Either the rule reported by the Trustees has not been enforced, or it was framed and intended to permit the continued violation of the Code of Ethics and expressed will of the ASSOCIATION.

"If the proprietors of these medicines have furnished complete formulas of the same, these formulas have not been published. The medicines remain secret, and the Trustees of the JOURNAL have become not merely promotors of their use, but partners in the secrecy.

"Furthermore, that the JOURNAL for April 7, 1894, advertising page vii, appears an advertisement of the American Physicians' Sanitarium Association, offering to '*treat and cure* all forms of narcotic and alcoholic inebriety,' and promising '*250 shares ($100 each) reserved to issue free to physicians sending the first 250 patients* (one share for each patient sent). All stock received at par in payment for treatment charges.'

"It is submitted that such use of the JOURNAL of the ASSOCIATION in opposition to the purposes and organic laws of the ASSOCIATION constitutes a breach of trust on the part of the Trustees of the JOURNAL, and should be so declared by the proper tribunal, viz., your honorable body.

(Signed) EDWARD JACKSON, M.D.,
JOHN T. CARPENTER, M.D.,
LEWIS H. TAYLOR, M.D.,

For the Philadelphia County Medical Society and the Medical Society of the State of Pennsylvania.

With this were submitted marked copies of the JOURNAL of the ASSOCIATION containing the advertisements specifically complained of. The Trustees of the JOURNAL were heard in their own defense, your committee being at the same time present and permitted to speak before the Council.

The Judicial Council, however, failed to secure a quorum and take action on the matter until after the adjournment of the ASSOCIATION, and although there is reason to believe that the decision arrived at has been communicated to the Trustees of the JOURNAL, it has not been given to your representatives, nor, so far as we know, has it been published to the ASSOCIATION.

The annual report of the Trustees of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, in addition to the statement of the work of the Trustees for the past year, contained the following defense of the policy they have pursued with reference to advertisements, which is substantially similar to that made by the Trustees before the Judicial Council:

"During the entire existence of the JOURNAL no question has presented greater difficulty or afforded your Board more embarrassment than to discriminate as to what may be considered as proper matter for its advertising pages. The policy adopted was, that having entered upon the business of publishing a journal, we would be governed by the same rules followed by those considered reputable who were engaged in the same business. The *British Medical Journal*, representing an Association with similar purposes and aims, was particularly indicated as a standard.

"Beyond insertion of the advertisements, the JOURNAL has scrupulously avoided any expression which could be interpreted as an indorsement of the advertisers, believing the owners of the JOURNAL—the profession—were capable of discriminating as to what would serve their interests.

"After the meeting of the ASSOCIATION in 1893 the Trustees resolved that an advertisement of a proprietary medicine shall be accepted in the discretion of the committee when the proprietors thereof shall furnish the complete formula.

"This course has since been our governing policy. The Board asserts that it has complied with the letter of the law in demanding that a formula of all secret and proprietary remedies should be submitted to its committee before being advertised in the JOURNAL, but it would direct your attention to the fact that had the apparent intention of those in control of the JOURNAL been established, we would be obliged to present to you to-day a considerable financial deficit. However desirous the Board might be to comply with the wishes of some members of the ASSOCIATION, it could not forget that under the present Constitution of the organization the members of the Board were the only parties legally responsible for obligations incurred, and they had too much confidence in the sense and justice of this body to believe it would demand they should 'make bricks without straw,' and discard a source of support utilized by other reputable journals.

"No advertisements have been inserted in the JOURNAL which do not find place in such publications as the *British Medical Journal*, *Boston Medical and Surgical Journal*, *New York Medical Record*, *New York Medical Journal*, and *Medical News*."

When this report had been submitted to the ASSOCIATION on the second day of its meeting, to the motion to approve it, Dr. Jackson moved an amendment: "That the report be received, that thanks be tendered the Trustees for their efforts in behalf of the JOURNAL, that other suggestions be adopted, but that the ASSOCIATION does not approve the policy of the Trustees with regard to advertisements."

This amendment was laid on the table by a vote of 86 ayes to 33 nays.

On a later date of the meeting Dr. Jackson introduced the following:

"WHEREAS, The interests of the JOURNAL of the ASSOCIATION require that it should command the confidence of the members of the societies in affiliation with this ASSOCIATION; and,

"WHEREAS, The JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION has contained numerous unethical advertisements, like that of 'Antikamnia' 'Labordine,' and other secret nostrums, and that of the American Physicians' Sanitarium Company, offering one hundred dollars' worth of stock to physicians sending it patients; and,

"WHEREAS, The Trustees of the JOURNAL have defended such a course on the ground that the money from such advertisements was needed to publish such a journal as they thought creditable to the ASSOCIATION;

"*Resolved*, That the various State medical societies in affiliation with this ASSOCIATION are hereby requested to inform this ASSOCIATION whether their members approve the policy of admitting such advertisements to the pages of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."

A motion to lay this upon the table was lost by a vote of 102 ayes to 113 nays, and, after discussion, the resolution was referred to the Judicial Council. What the decision of the Judicial Council has been upon the case presented, or what action it will take with reference to the above resolution referred to it, we do not know. The ASSOCIATION, however, in adopting the report of the Trustees is an approval of the course the Trustees have pursued, and a fair assumption of responsibility for the same. Criticism of the Trustees as trustees for this course should, therefore, be regarded as ended.

Whether the AMERICAN MEDICAL ASSOCIATION, however, can, when its attention has been fully drawn to the inconsistency between its Code of Ethics and its practice, continue in such a course is an entirely different question. From the expressions of opinion of the members present at the meeting; from the difference between the vote of approval of the report of the Trustees and with reference to laying on the table the resolution later offered, it seems to us that the members of the ASSOCIATION appreciate the illogical and false position in which the ASSOCIATION places itself by depending for the support of its JOURNAL on the advertisement of a class of preparations that it denounces in its Code of Ethics; and we believe the appreciation of this aspect of the matter to extend and increase.

Your delegates at San Francisco were met with the statement that only in the State of Pennsylvania had the policy of the JOURNAL with reference to advertisements been adversely criticised.[1] If the question is to be properly discussed, it should be free from any personal or sectional bias: it is important that affiliated medical societies in other parts of the country should be induced to consider the subject and take action upon it.

We would therefore suggest, if the Philadelphia County Medical Society has that real interest in the subject which justifies the placing upon its delegates of the ungracious office they had to perform at San Francisco, it prepare a brief statement of the objections to allowing the advertisement of nostrums in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and send this statement, with a request to consider the subject and take action thereon, to the various State and county medical societies throughout the country.

We believe that if the constituent societies clearly express their disapproval of the policy in question, the AMERICAN MEDICAL ASSOCIATION and its Trustees will frankly accept the decision so reached, and that the object which this society seeks will be accomplished—the improvement and elevation of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIA-

[1] Resolutions disapproving the publication of nostrum advertisements in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION have been passed by at least two other State societies, namely, those of Missouri and of Texas. The American Pharmaceutical Association passed a resolution approving the action taken by the AMERICAN MEDICAL ASSOCIATION at Detroit, and conveying its thanks for the same.

TION to a position where not only in its scientific and literary, but also in its ethical excellence, it shall lead rather than follow other medical journals, and so shall command the full respect and support of the whole profession.

(Signed) EDWARD JACKSON, M.D.,
J. H. W. CHESTNUT, M.D.,
JOHN B. ROBERTS, M.D.,
G. BENSON DUNMIRE, M.D.

Washington Notes.

MEDICAL SOCIETY OF THE DISTRICT.—At the meeting of the society held on the 20th inst., Dr. Acker read a paper on "Intubation for Pharyngeal Diphtheria," and Dr. Stone read one on "Practical Massage." At the meeting held on the 27th, Dr. J. T. Kelley read an essay on "Hysteria," and Dr. C. W. Stiles read an article entitled, "The Rarity of Tænia Solium in America."

HOSPITAL FOR THE INSANE.—The annual report of the St. Elizabeth Hospital for 1894 contains an instructive report on "Ten Cases of Intracranial Tumors," by the pathologist, Dr. J. W. Blackburn.

THE SIBLEY HOSPITAL.—This hospital was formally opened to the public on the 25th inst., and is now in "thorough working order."

THE HOME FOR INCURABLES.—The most successful hospital benefit of the season took place on the 27th inst., when Mrs. Hearst extended the use of her home for the entertainment in benefit of the Home for Incurables.

WATER SERVICE EXTENSION.—The Commissioners have directed the extension of the water service in the northern portion of the city, and will expend $40,000 in the enterprise. This will fill a long-felt want and have a very favorable influence on the general health in that locality.

HEALTH OF THE DISTRICT.—The report of the Health Officer for the week ended March 23 is as follows: Number of deaths (still-births not included), white 64, colored 50, total 114. Death rate per 1,000 per annum, white 18.13, colored 29.42, total, 21.91. Death rate per 1,000 per annum for corresponding week last year, 20.98. Still-births: White 6; colored 11; total 17. During last week no death occurred in the District from any contagious or zymotic disease. As compared with the previous week, there was a slight increase in the death rate. The principal causes of the mortality were heart troubles and lung complications. From the latter nearly one-third of all deaths resulted. There was an absence of malarial and diarrheal influences to a noticeable degree, there having been but two fatal cases of each. Infant mortality stood at the normal. No new cases of smallpox were reported, thus leaving but four cases under treatment under the direction of the Health Department, and these are convalescing. Dr. Elliot, the physician in charge of the smallpox hospital, has been sick with varioloid at the smallpox hospital.

THE PROVIDENCE HOSPITAL.—The good Sisters in charge of the Providence Hospital can always be relied upon to help the poor sick outcasts whom no other institution wishes to provide for. A poor woman with a child suffering from diphtheria went the rounds of the hospitals a short time ago seeking admission, but failed until she was sent to a room in the workhouse hospital. The Commissioners, in the absence of a contagious disease hospital, are at last to provide for such cases. As all of the hospitals of the city have rules against the admission of such, the Commissioners appealed to the different institutions and urged the providing of wards for such cases. The Providence Hospital answered promptly and at once made the necessary arrangements to care for poor patients suffering with such diseases. The community will not soon forget this and many other humane acts of these good helpers of the sick.

St. Louis Notes.

ST. LOUIS MEDICAL SOCIETY.—At the regular meeting on March 30, the scientific program consisted of the presentation of pathologic specimens. Compared with the number present at the preceding meeting, the attendance was small, but the minutes of the previous meeting were not without their effect upon those present, calling up a lively personal discussion on the resolution to exclude newspaper reporters. This resolution led to the adoption of one to provide for the appointment and pay of a sergeant-at-arms to exclude unqualified persons from the meetings of the society. Notwithstanding the resolution of exclusion, the Sunday morning papers contained full accounts of the proceedings of the society.

THE TRI-STATE MEDICAL SOCIETY meets at the Planters' Hotel April 2, 3 and 4, under the Presidency of Dr. James Moores Ball.

The scientific papers will be read at the Planters', and clinics will be given at the City Hospital by Drs. W. W. Keen and Chas. A. Oliver, of Philadelphia. Dr. John A. Wyeth will deliver the address on surgery; Dr. F. B. Robinson the address on gynecology. Among well-known members of the profession who have promised papers are Heneage Gibbs, of Ann Arbor; H. N. Moyer, Chicago; David Cerna, Galveston; Joseph Eastman, Indianapolis; Howard A. Kelly, Baltimore; J. M. Mathews, Louisville; H. O. Walker, Detroit; Roswell Park, Buffalo; E. P. Davis, Philadelphia; Richard Dewey, Chicago; Chas. L. Dana, New York. On the evening of April 3 a grand banquet will be given the visitors at the Planters' by the local profession, where the toasts will be directed by the genial toast-master of the society, Dr. I. N. Love.

DISEASE AND MORTUARY RECORD for the week ending March 30: Deaths, 206; 35 were due to zymotic diseases, 30 to constitutional, 99 to local, 30 to developmental, 12 to violence, 9 to smallpox, 1 to measles, 7 to diphtheria, 5 to membranous croup, 1 to pertussis, 2 to typhoid fever, 10 to consumption, 12 to bronchitis, 20 to pneumonia, and 4 to la grippe. Of the dead, 38 were under the age of 1 year, 55 under 5, 39 over 60; 42 were in public institutions. Twenty-one inquests were held. The reports of new cases and deaths—smallpox, 27 new cases, 9 deaths; diphtheria, 31 cases and 7 deaths; scarlatina, 20 cases; typhoid fever, 1 case and 2 deaths; measles, 101 cases and 1 death; cerebro-spinal fever 1 case; pertussis 1 case and 1 death. At quarantine, 1 case of smallpox died on the 30th, leaving 115 cases there.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from March 23, 1895, to March 29, 1895.

First Lieut. HENRY R. STILES, Asst. Surgeon, extension of leave of absence granted on surgeon's certificate of disability, is still further extended two months, on surgeon's certificate of disability.

Capt. JEFFERSON D. POINDEXTER, Asst. Surgeon, is granted leave of absence for one month.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending March 30, 1895.

Surgeon L. B. BALDWIN, detached from Pensacola Navy Yard, and ordered to the U. S. S. "Montgomery."

Asst. Surgeon J. S. HOPE, ordered to the U. S. S. "Montgomery."

Surgeon HOWARD WELLS, detached from the U. S. S. "Montgomery," and granted three months' leave.

Marine-Hospital Changes. Official list of changes of stations and duties of medical officers of the U. S. Marine-Hospital Service, for the fifteen days ended March 30, 1895.

P. A. Surgeon G. T. VAUGHAN, to proceed to Philadelphia, Pa., and assume command of Service, March 28, 1895.

Asst. Surgeon C. H. GARDNER, granted leave of absence for fifteen days, March 22, 1895.

Asst. Surgeon H. S. CUMMING, to rejoin station (New York, N. Y.), March 16, 1895.

PROMOTION.

EAGER, J. M., commissioned as Passed Assistant Surgeon, March 26, 1895.

LETTERS RECEIVED.

Ash, H. St. Clair, Philadelphia, Pa; Atkinson, W. B., Philadelphia, Pa.
Bowker, A. M., Boston, Mass.; Baxter, W. E., Bangor, Me.; Bell, Guido, Indianapolis, Ind.; Birney, E., Greene, Iowa; Brown, Edw. J., Minneapolis, Minn.; Brooks, H. A., Salem, Mass.; Brown, C. B., San Francisco, Cal.
Cantrell, G. M. D., Little Rock, Ark.; Case, C. S., Chicago, Ill.; Curryer, J. H., Mankato, Minn.
Davison, D. A., Wymore, Neb.; De Land, Fred, Chicago, Ill.; Day, L. T., Westport, Conn.
Ford, Chas., New York, N. Y.; Field, Mrs., New York, N. Y.
Givens, J. W., Blackfoot, Idaho; Galloway, D. H., Chicago, Ill.
Hutchinson, Mahlon, Washington, D. C.; Hollingsworth & Mather, St. Louis, Mo.; Hummel, A. L., Philadelphia, Pa.; Hotz, F. C., Chicago, Ill.; Hays, F. W., Indianapolis, Ind.; Hummel, H. L., Philadelphia, Pa.
Johnston, W. W., Adv. Agency, Chicago, Ill.
Koon, T. M., Casenovia, Mich.; Kinneman, A. S., Cleveland, Ohio; Krotoszyner, M., San Francisco, Cal.
Moore, M. T., Richmond, Mich.; Mather Mfg. Co., New York, N. Y.; Meisenbach, A. H., St. Louis, Mo.; Maclean, Donald, Detroit, Mich.; Morgan, J. D., Washington, D. C.
Parsons, C., Hartford, S. Dak.; Potts, J. S., San Jose, Cal.; Parke, Davis & Co., Detroit, Mich.; Peacock Chemical Co., St. Louis, Mo.
Ray, J. C. Jr., Blocton, Ala.; Rohé, Geo. H., Baltimore, Md.
Seller, Geo., Alma, Wis.; Sullivan, J. E., New York, N. Y.; Smith E., Burchard, Neb.; Stearns, F. & Co., Detroit, Mich.; Sayre, R. H., New York, N. Y.
Thorp, D. D., Lansing, Mich.; Tuley, H. E., Louisville, Ky.; Tobias, A. W., Coatsville, Ind.; Toner, J. M., Washington, D. C.
Vetter, J. C. & Co., New York, N. Y.
West, H. A., Galveston, Texas; Wyman, Hal. C., Detroit, Mich.